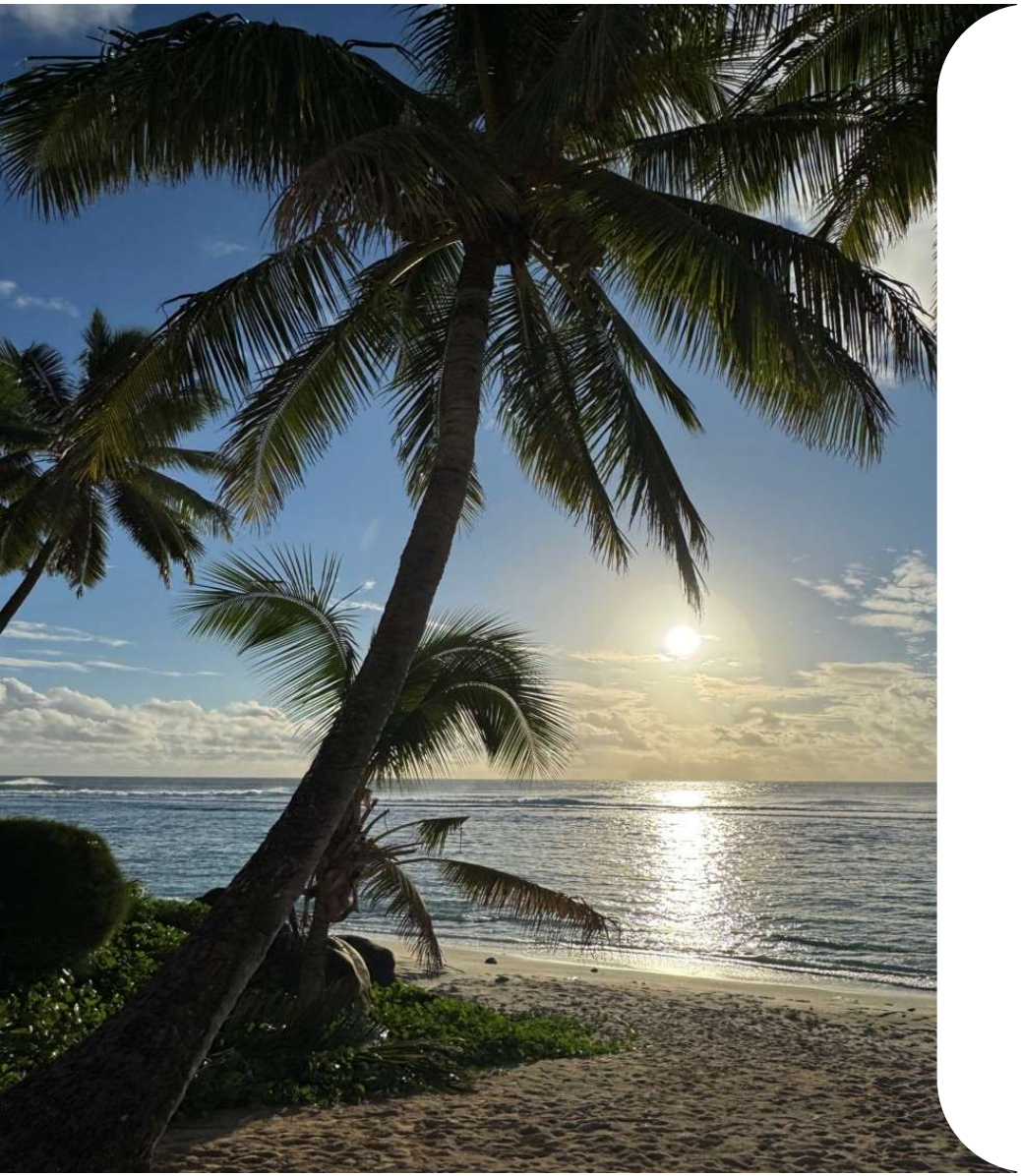
UNEP CISPAC5 & ROK-PI CLIPS3 JOINT REGIONAL TRAINING ON PICASO AND ANTICIPATORY ACTION
20-22 Apr. 2026, Nadi, Fiji

APCC
APEC CLIMATE CENTER

Play with PICASO:
Exploratory Data Analysis & Practice

- Day 1, Afternoon Session 2
- Hyun-Ju Lee



PICASO

I. Start Your Journey with PICASO

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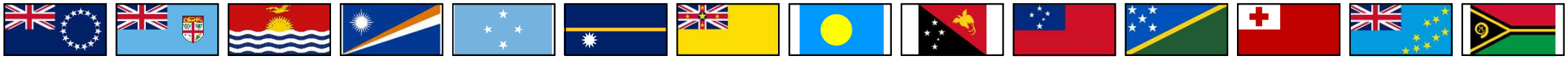


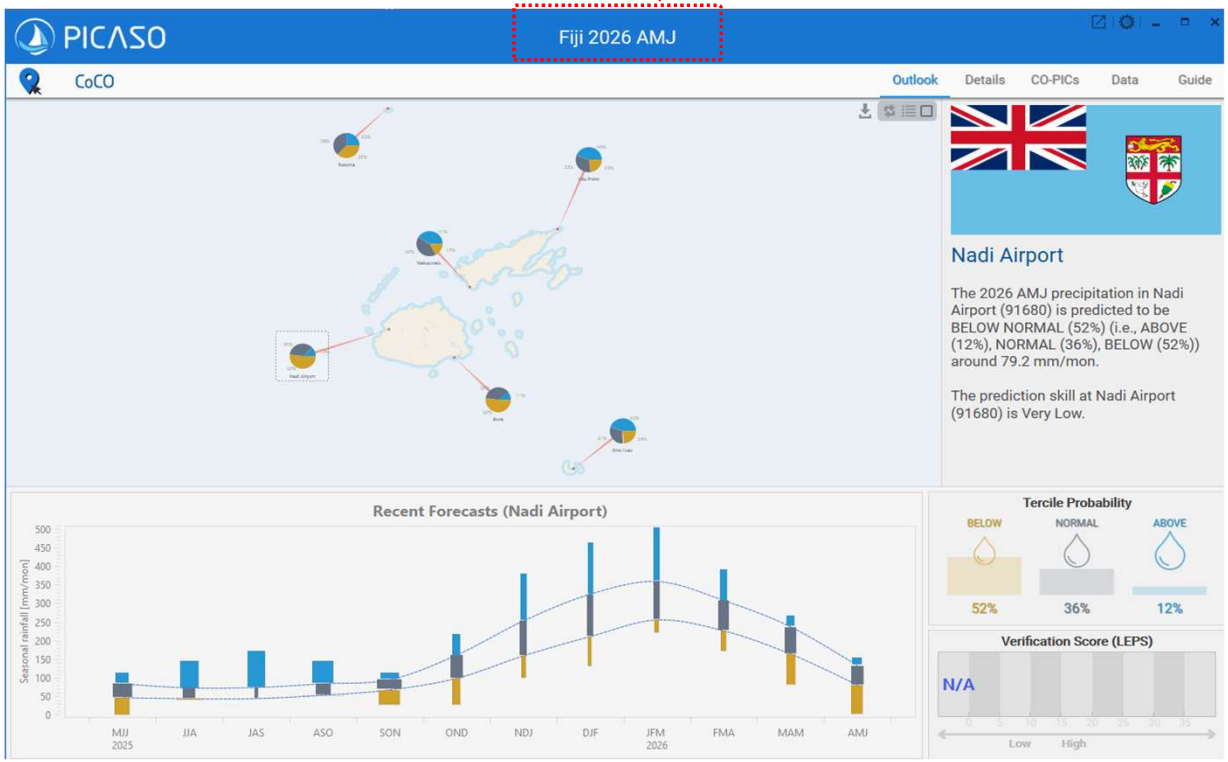
A

Z

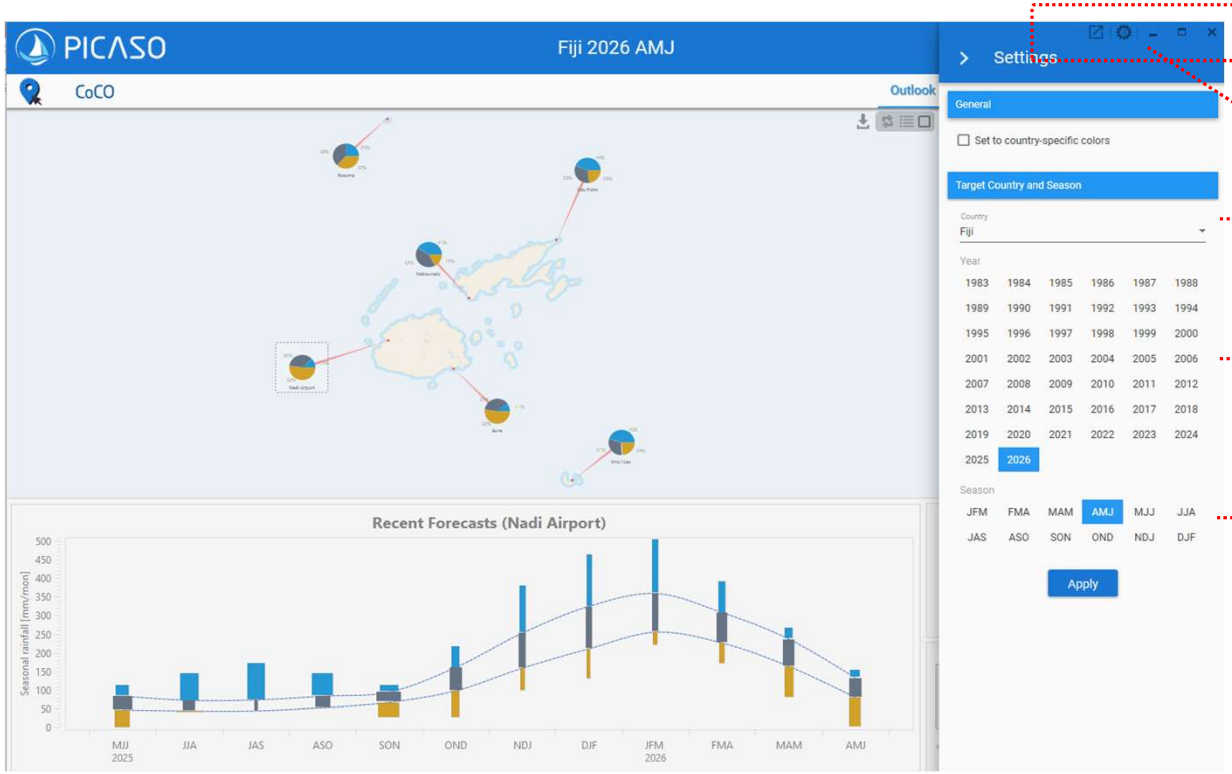
14 Countries **53 Stations**

I. Start Your Journey with PICASO

PICASO's current settings (Country / Year / Season)



I. Start Your Journey with PICASO



"Click" the wheel button

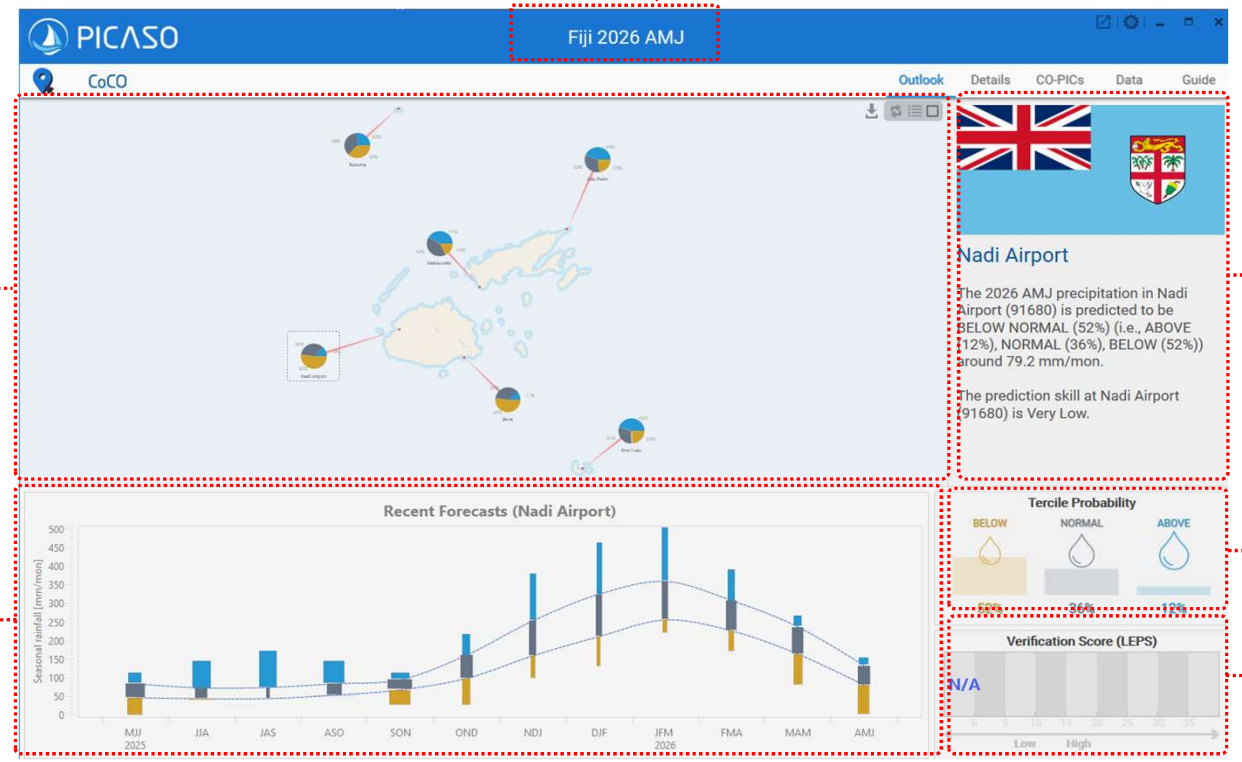
Country

Year

Seaon

I. Start Your Journey with PICASO

PICASO's current settings (Country / Year / Season)



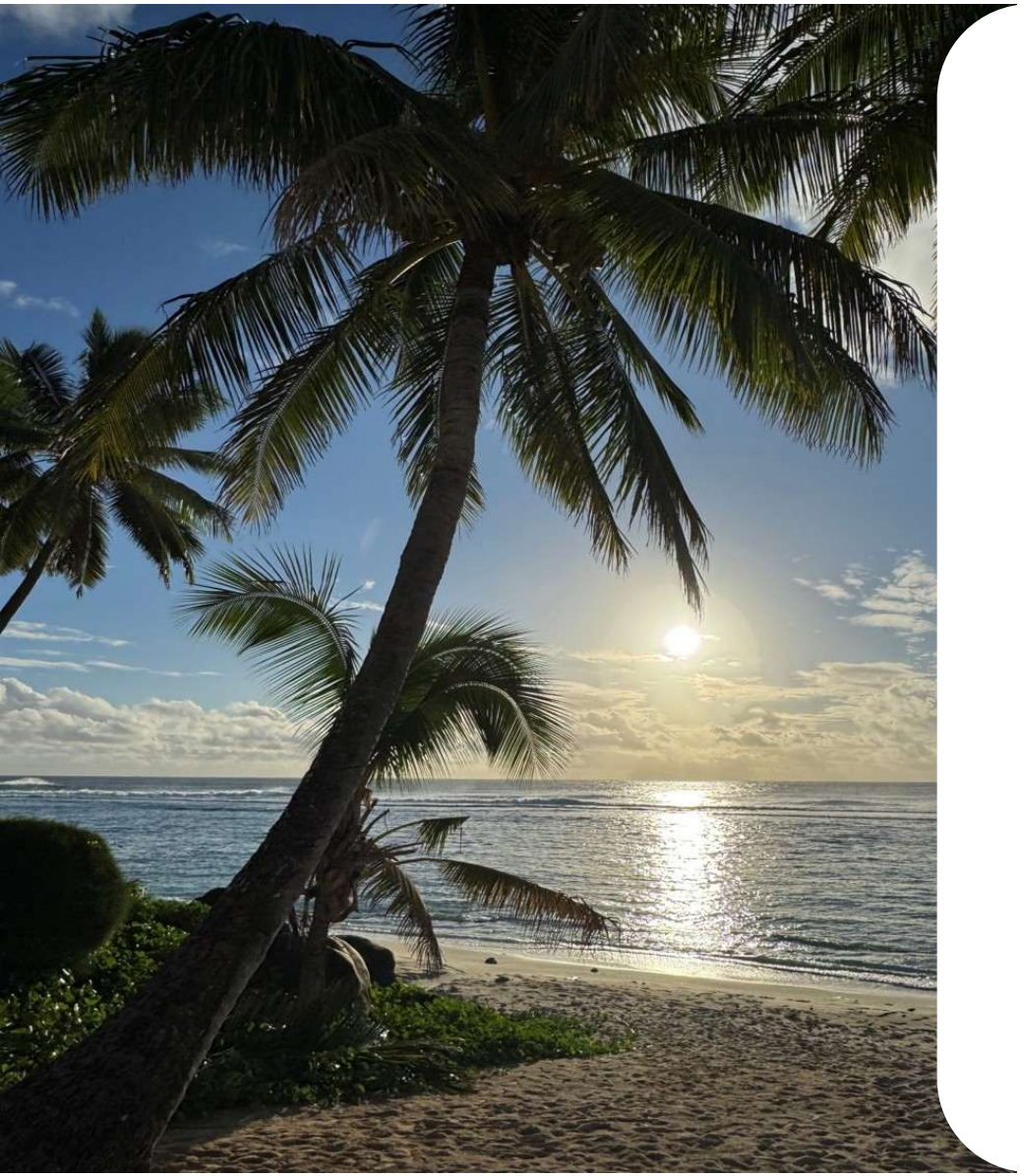
Main Vector Map

Natural Language Forecast

Recent Forecasts Chart

Tercile Probability

Verification Score (LEPS)



PICASO

II. Function of PICASO

II. PICASO Menu Structure

Outlook

Climate at a glance

- Tercile/Recent Forecasts
- Verification Scores
- Natural Language Outlook

Details

For exports

- Interactive Probability Scale
- Historical Forecast/Observation
- Training/Validation Scores

CO-PICs

Large-scale view

- ENSO/SST Outlook
- Temperature/Precipitation
- Validation and Verification

Data

Manage your data

- Interactive Data Management
- Verification Scores
- Custom Dataset Extraction

Guide

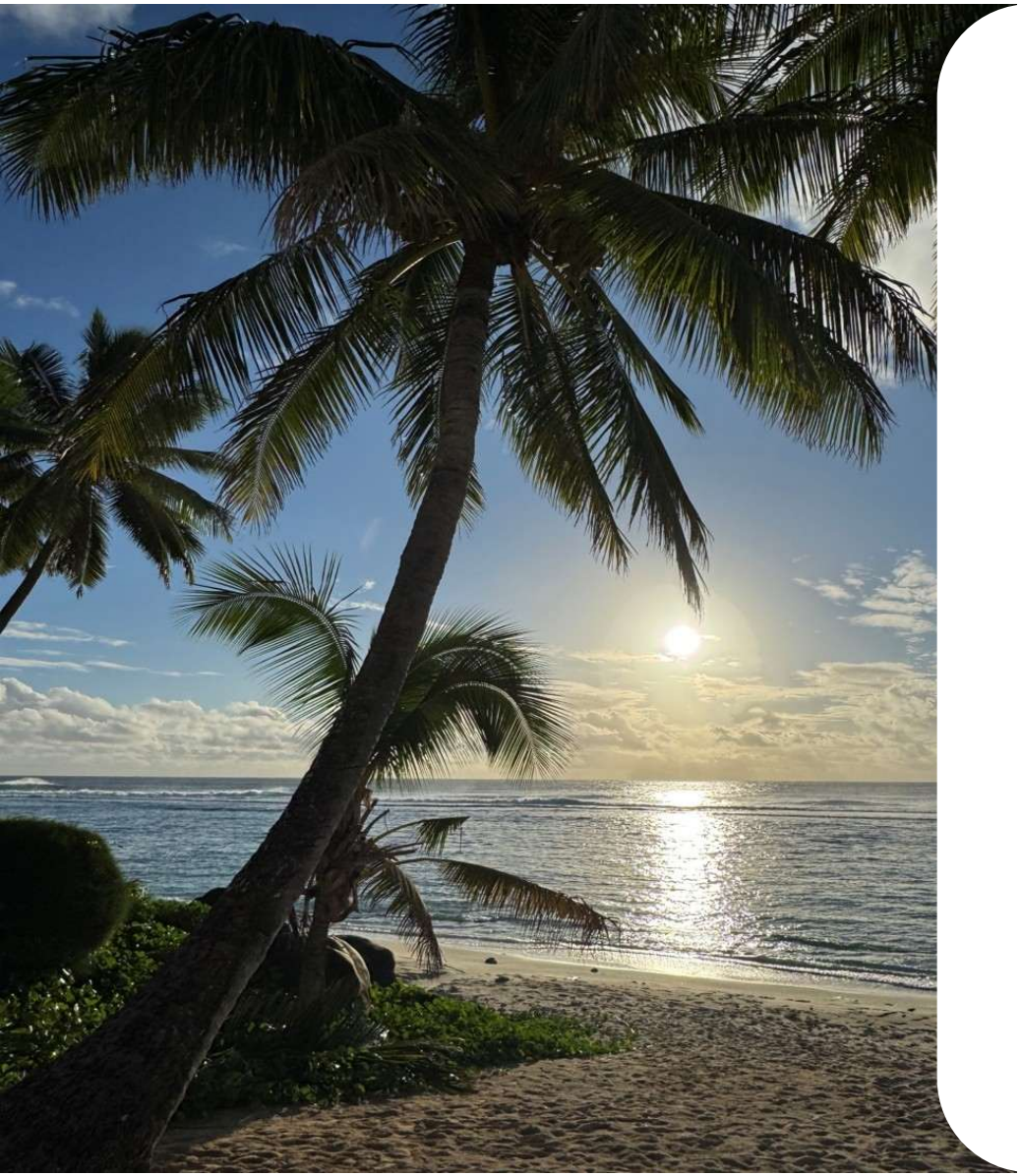
Look beyond

- Detailed Application Guide
- Climate Summary & Resources

Settings

Optimize the system

- Themes and Visual Styles
- Export as PDF/PNG Options



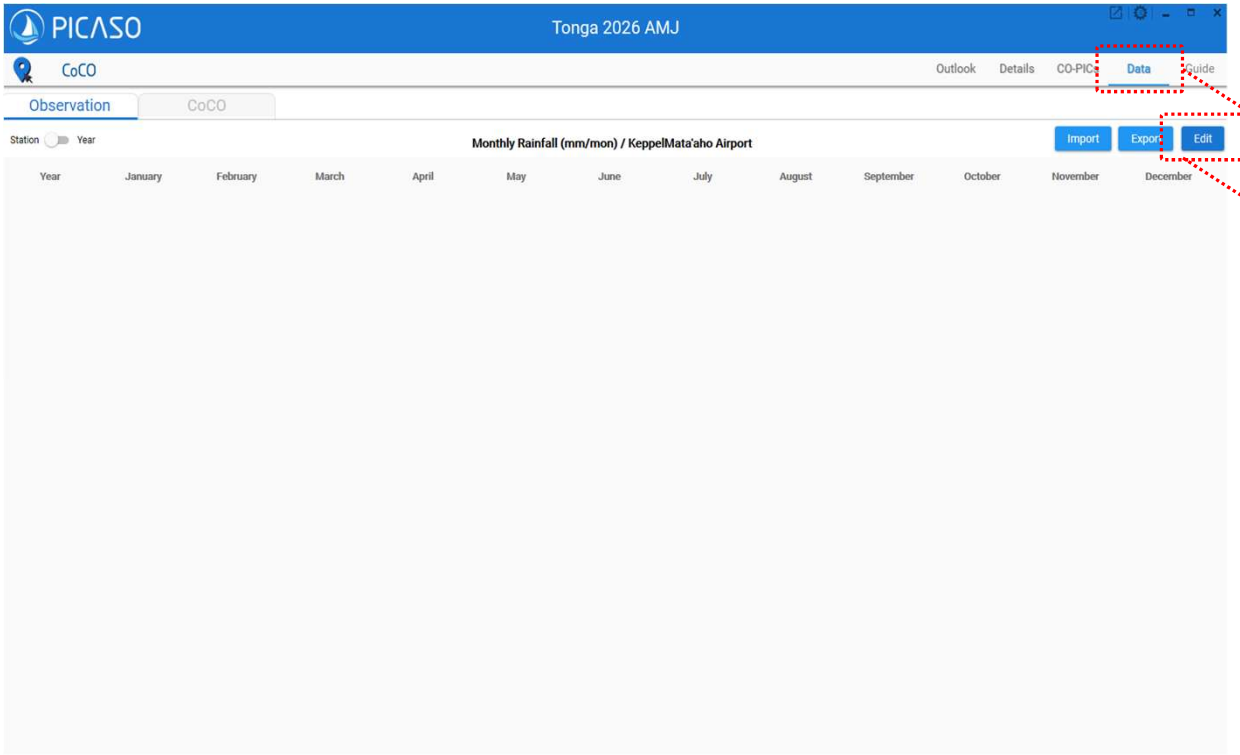
PICASO

II-I. Function of PICASO

Data

- Interactive Data Management
- Verification Scores
- Custom Dataset Extraction

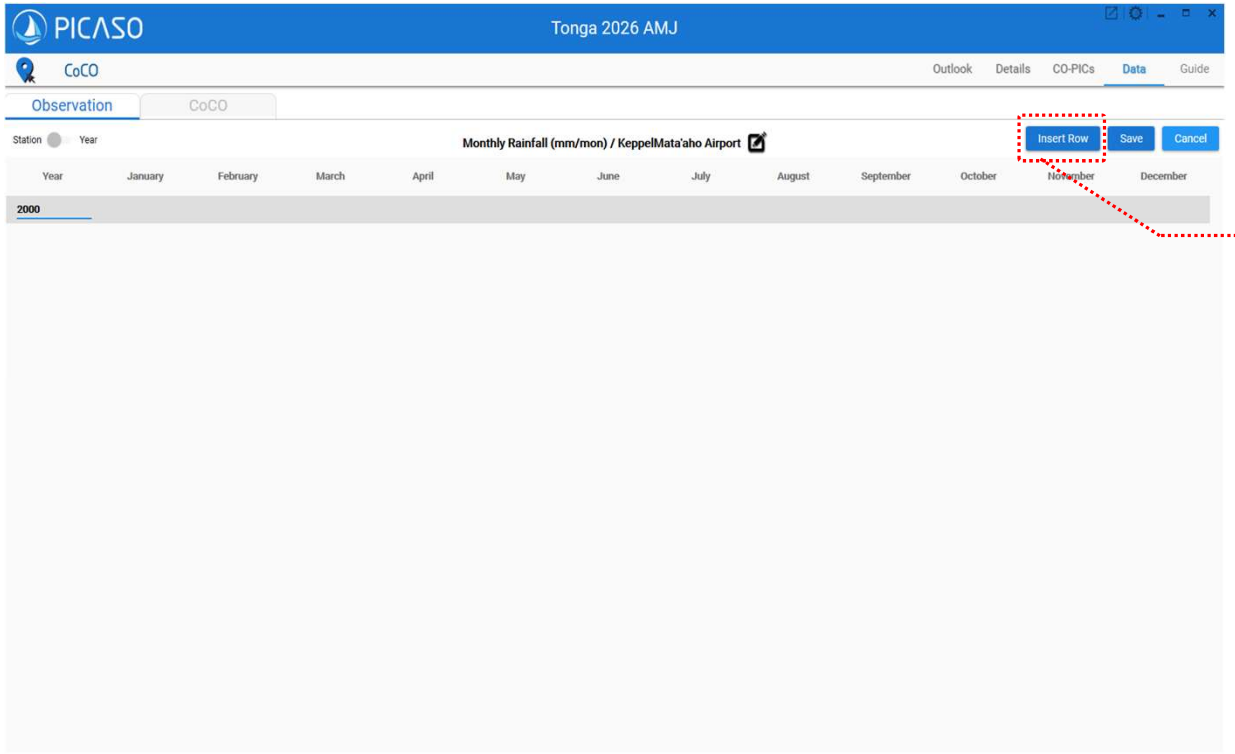
II-I. DATA



Click the “Data” Tab

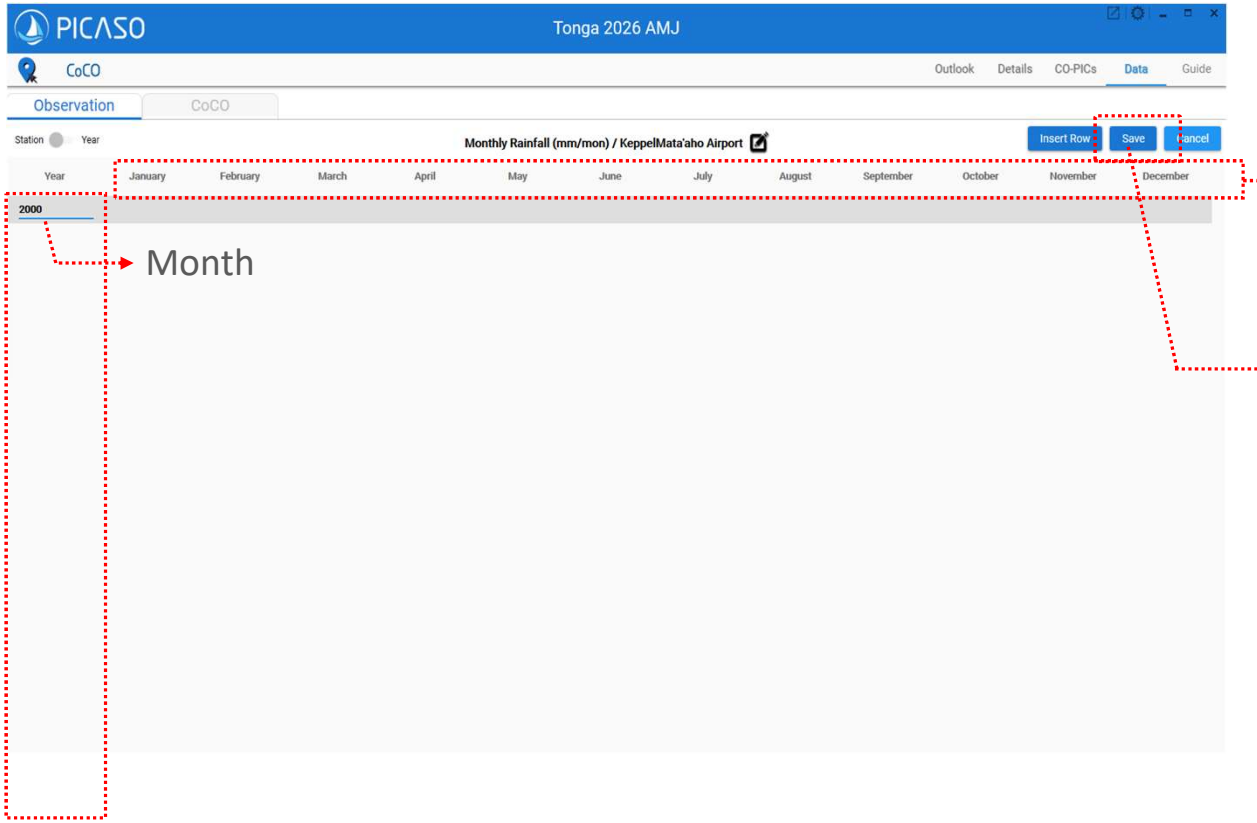
Click the “Edit” Button

II-I. DATA



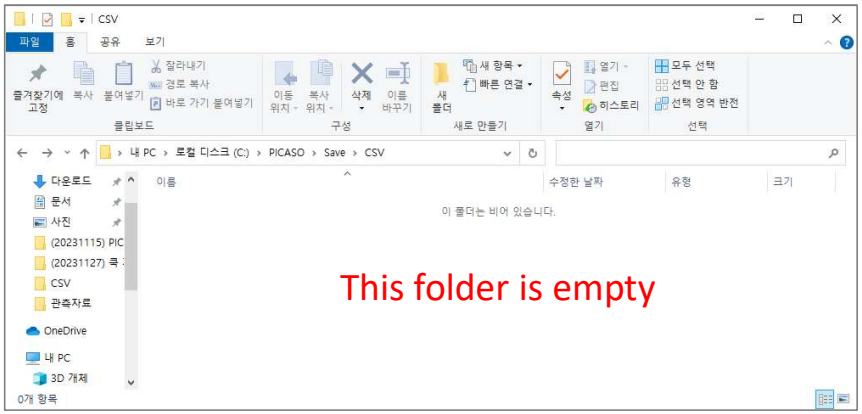
Click the “Insert Row” Button

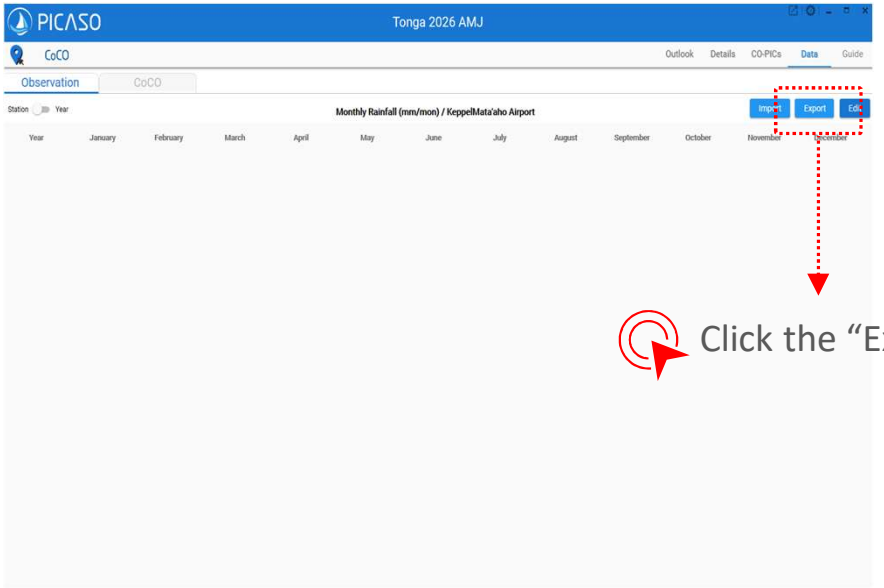
II-I. DATA


PICASO
Tonga 2026 AMJ
CoCO
Outlook
Details
CO-PICs
Data
Guide
Observation
CoCO
Station
Year
Monthly Rainfall (mm/mon) / KeppelMata'aho Airport
Insert Row
Save
Cancel
Year
January
February
March
April
May
June
July
August
September
October
November
December
2000
Month
Month
Click the “Save” Button

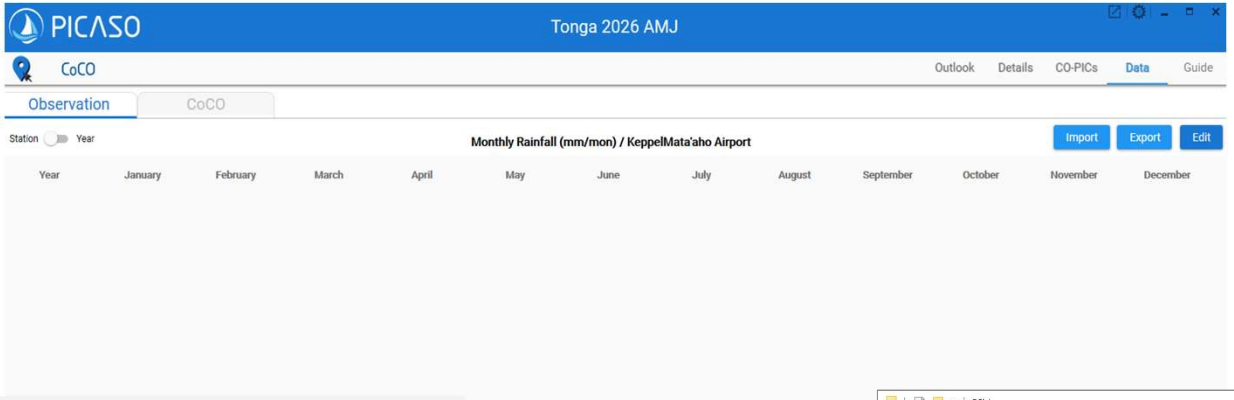
II-I. DATA

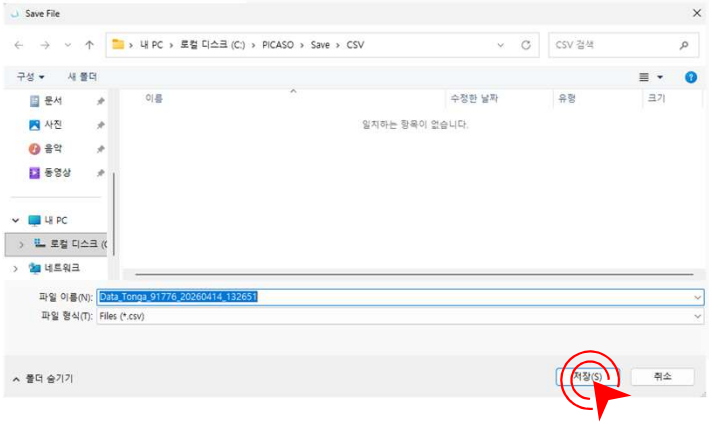
Default Path : C:\PICASO\Save\CSV

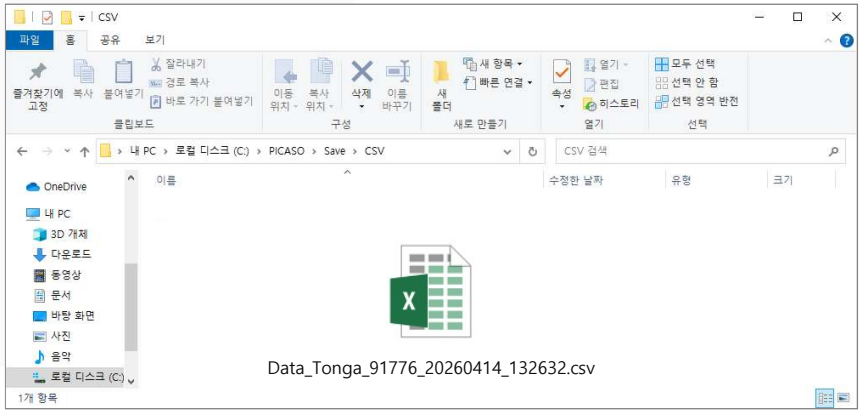




II-I. DATA







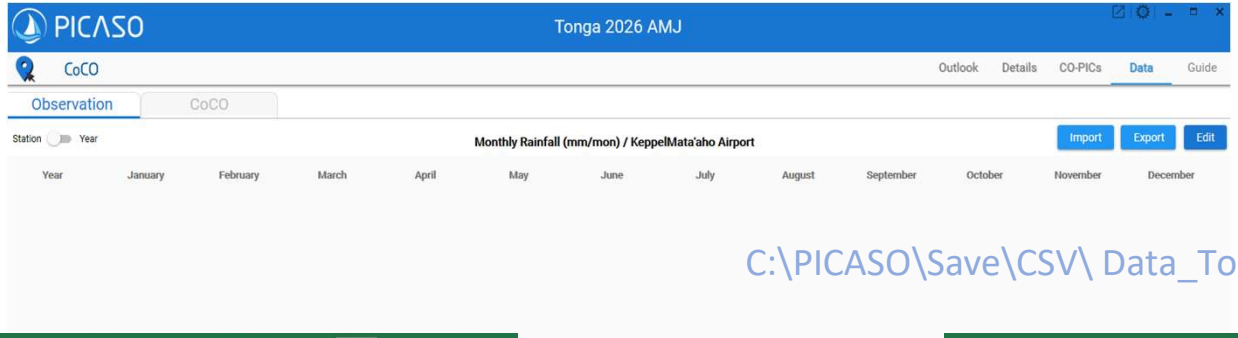
Default Path : C:\PICASO\Save\CSV

[FILE NAME] Data_Tonga_91776_20260414_132632.csv

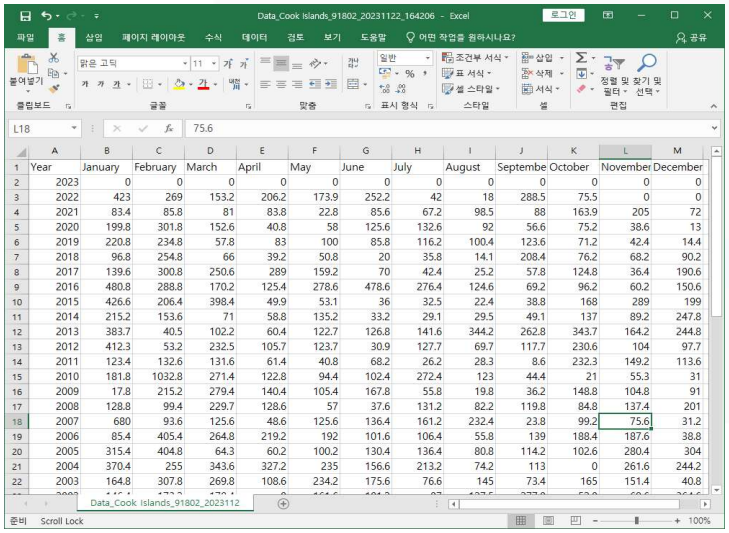
Country Name Station Number YMD HMS

- YMD : Year Month Date
- HMS : Hour Minute Second

II-I. DATA

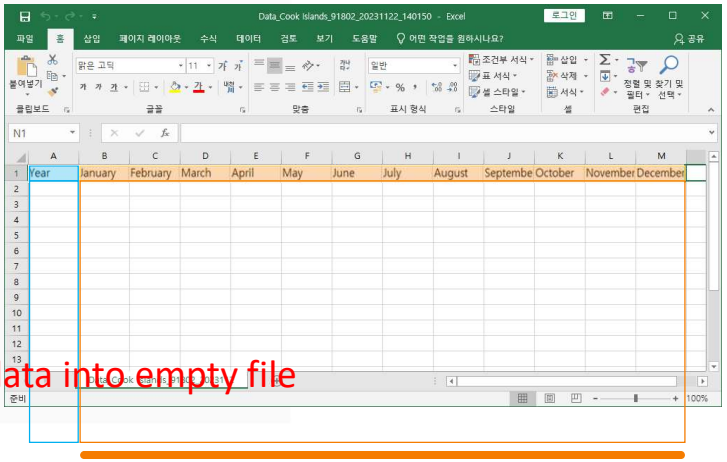


C:\PICASO\Save\CSV\ Data_Tonga_91776_20260414_132632.csv



Year	January	February	March	April	May	June	July	August	Septembe	October	November	December
2023	0	0	0	0	0	0	0	0	0	0	0	0
2022	423	269	153.2	206.2	173.9	252.2	42	18	288.5	75.5	0	0
2021	83.4	85.8	81	83.8	22.8	85.6	67.2	98.5	88	163.9	205	72
2020	199.8	301.8	152.6	40.8	58	125.6	132.6	92	56.6	75.2	38.6	13
2019	220.8	234.8	57.8	83	100	85.8	116.2	100.4	123.6	71.2	42.4	14.4
2018	96.8	254.8	66	39.2	50.8	20	35.8	14.1	208.4	76.2	68.2	90.2
2017	139.6	300.8	250.6	289	159.2	70	42.4	25.2	57.8	124.8	36.4	190.6
2016	480.8	288.8	170.2	125.4	278.6	478.6	276.4	124.6	69.2	96.2	60.2	150.6
2015	426.6	206.4	398.4	49.9	53.1	36	32.5	22.4	38.8	168	289	199
2014	215.2	153.6	71	58.8	135.2	33.2	29.1	29.5	49.1	137	89.2	247.8
2013	383.7	40.5	102.2	60.4	122.7	126.8	141.6	344.2	262.8	343.7	164.2	244.8
2012	412.3	53.2	232.5	105.7	123.7	30.9	127.7	69.7	117.7	230.6	104	97.7
2011	123.4	132.6	131.6	61.4	40.8	68.2	26.2	28.3	8.6	232.3	149.2	113.6
2010	181.8	1032.8	271.4	122.8	94.4	102.4	272.4	123	44.4	21	55.3	31
2009	17.8	215.2	279.4	140.4	105.4	167.8	55.8	19.8	36.2	148.8	104.8	91
2008	128.8	99.4	229.7	128.6	57	37.6	131.2	82.2	119.8	84.8	137.4	201
2007	680	93.6	125.6	48.6	125.6	136.4	161.2	232.4	23.8	99.2	75.6	31.2
2006	85.4	405.4	264.8	219.2	192	101.6	106.4	55.8	139	188.4	187.6	38.8
2005	315.4	404.8	64.3	60.2	100.2	130.4	136.4	80.8	114.2	102.6	280.4	304
2004	370.4	255	343.6	327.2	235	156.6	213.2	74.2	113	0	261.6	244.2
2003	164.8	307.8	269.8	108.6	234.2	175.6	76.6	145	73.4	165	151.4	40.8

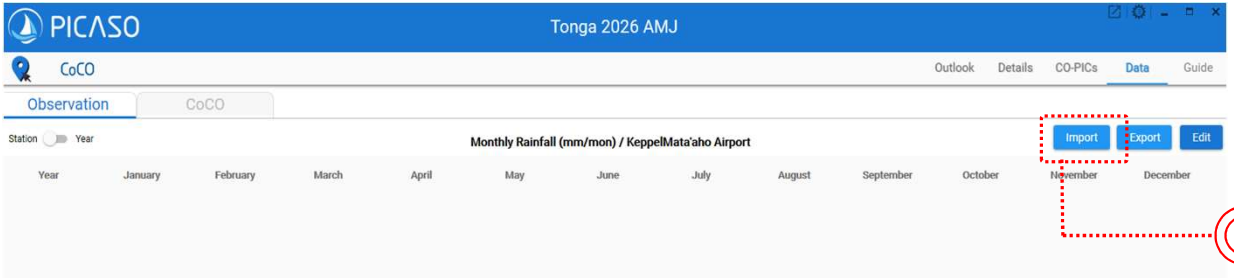
copy and paste
your own observation data into empty file



Columns for monthly observation data

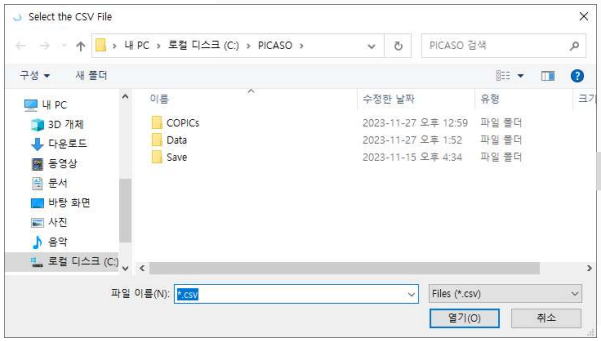
Column for Year

II-I. DATA

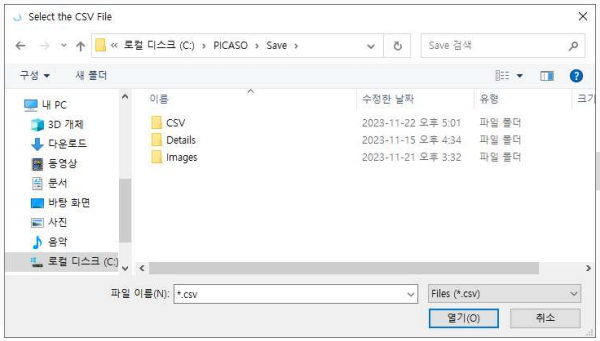


Click the “Import” Button

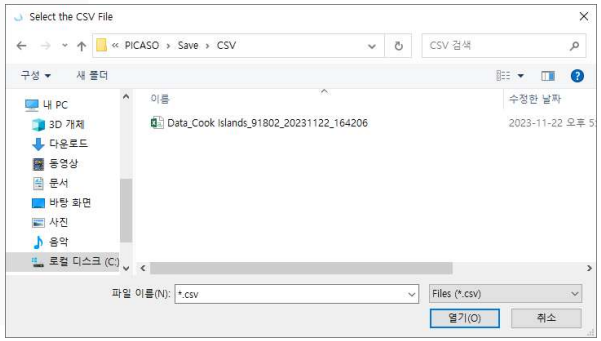
*Click **Save** folder*



*Click **CSV** folder*

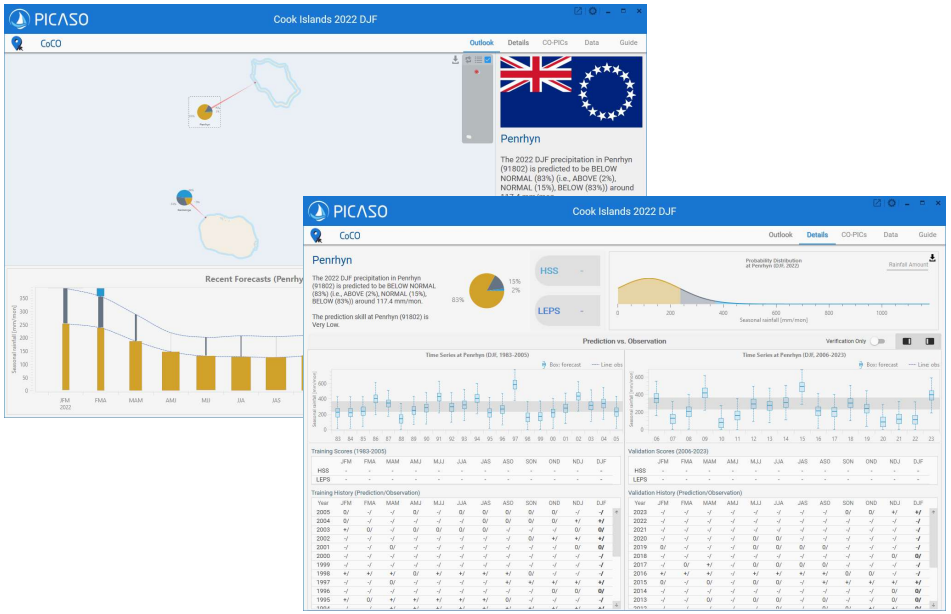


*Double-click the **data file** to open it*



Go to C:\PICASO\Save\CSV folder

II-I. DATA


PICASO
Cook Islands 2022 DJF
CoCO
Outlook
Details
CO-PICs
Data
Guide
Penrhyn
The 2022 DJF precipitation in Penrhyn (91802) is predicted to be BELOW NORMAL (83%) (i.e., ABOVE (2%), NORMAL (15%), BELOW (83%)) around
Recent Forecasts (Penrhy
PICASO
Cook Islands 2022 DJF
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Outlook
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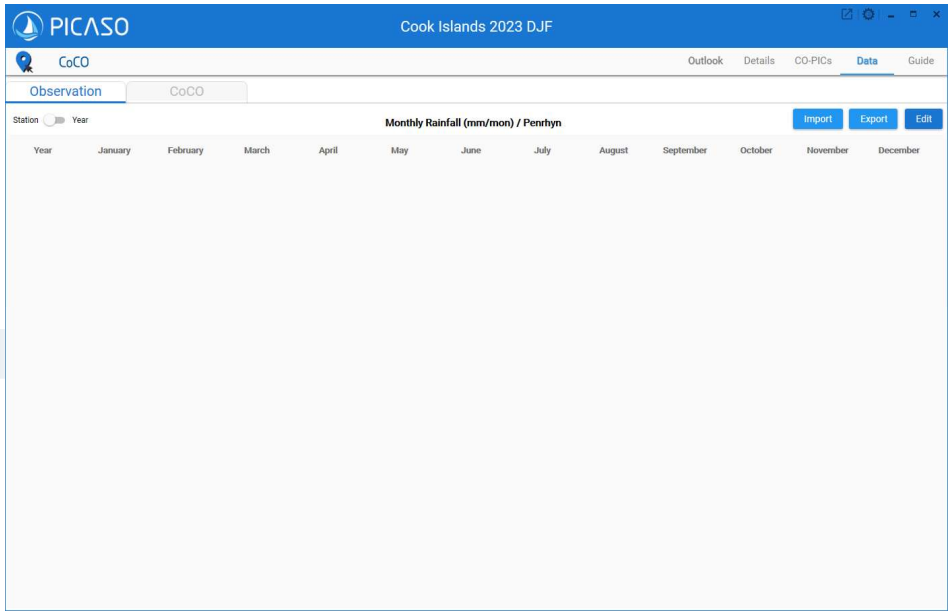
CO-PICs
Data
Guide
Penrhyn
The 2022 DJF precipitation in Penrhyn (91802) is predicted to be BELOW NORMAL (83%) (i.e., ABOVE (2%), NORMAL (15%), BELOW (83%)) around 117.4 mm/mon.
The prediction skill at Penrhyn (91802) is Very Low.
HSS
LEPS
Prediction vs. Observation
Verification Only
Time Series at Penrhyn (DJF, 1983-2005)
Time Series at Penrhyn (DJF, 2006-2023)
Box: forecast
Line: obs
Training Scores (1983-2005)
Validation Scores (2006-2023)
Training History (Prediction/Observation)
Validation History (Prediction/Observation)


PICASO
Cook Islands 2023 DJF
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Data
Guide
Observation
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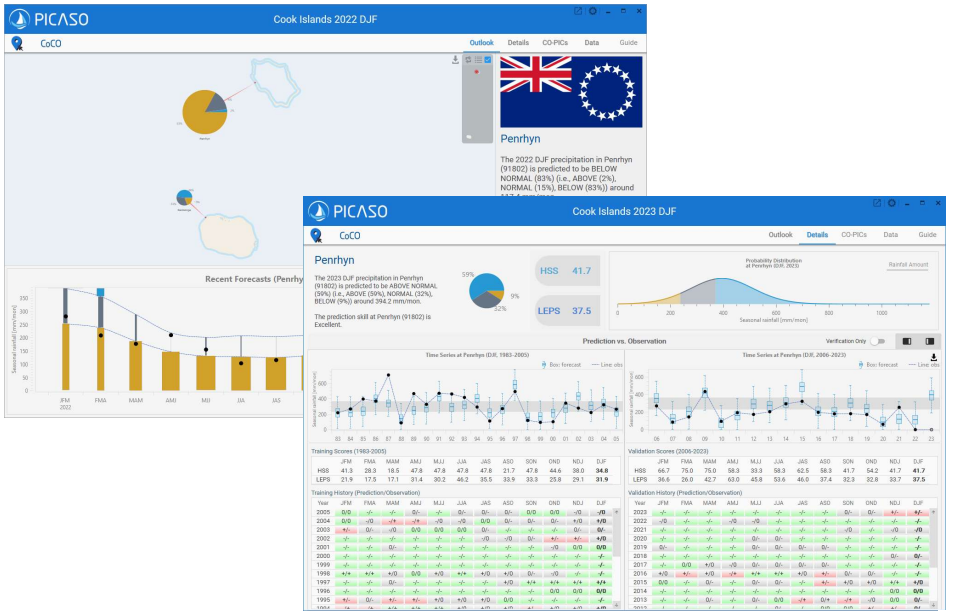
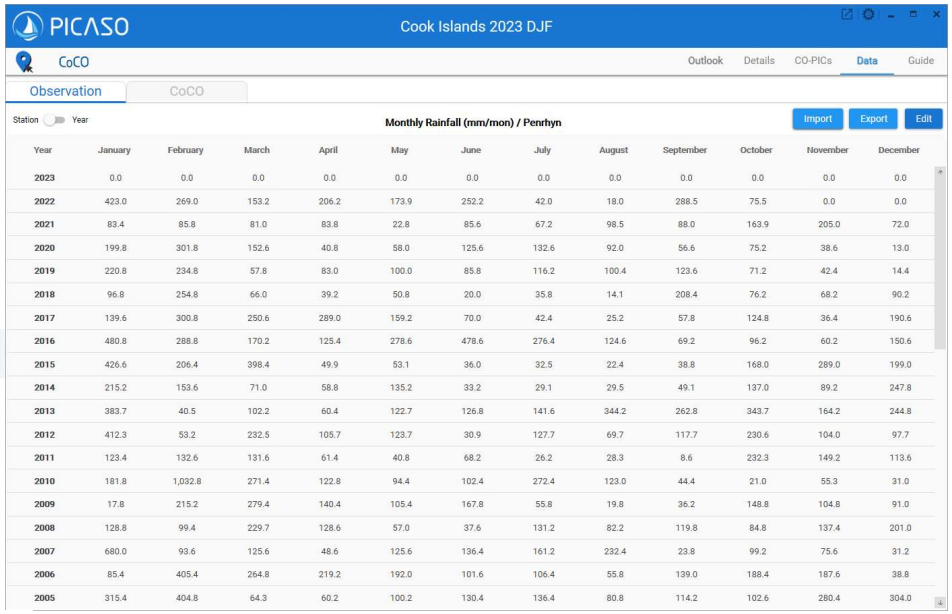
Station
Year
Monthly Rainfall (mm/mon) / Penrhyn
Import
Export
Edit
Year
January
February
March
April
May
June
July
August
September
October
November
December

II-I. DATA





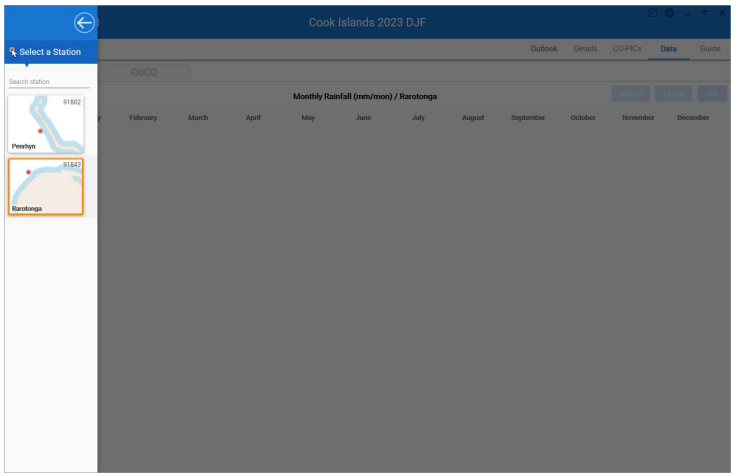
Year	January	February	March	April	May	June	July	August	September	October	November	December
2023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2022	423.0	269.0	153.2	206.2	173.9	252.2	42.0	18.0	288.5	75.5	0.0	0.0
2021	83.4	85.8	81.0	83.8	22.8	85.6	67.2	98.5	88.0	163.9	205.0	72.0
2020	199.8	301.8	152.6	40.8	58.0	125.6	132.6	92.0	56.6	75.2	38.6	13.0
2019	220.8	234.8	57.8	83.0	100.0	85.8	116.2	100.4	123.6	71.2	42.4	14.4
2018	96.8	254.8	66.0	39.2	50.8	20.0	35.8	14.1	208.4	76.2	68.2	90.2
2017	139.6	300.8	250.6	289.0	159.2	70.0	42.4	25.2	57.8	124.8	36.4	190.6
2016	480.8	288.8	170.2	125.4	278.6	478.6	276.4	124.6	69.2	96.2	60.2	150.6
2015	426.6	206.4	398.4	49.9	53.1	36.0	32.5	22.4	38.8	168.0	289.0	199.0
2014	215.2	153.6	71.0	58.8	135.2	33.2	29.1	29.5	49.1	137.0	89.2	247.8
2013	383.7	40.5	102.2	60.4	122.7	126.8	141.6	344.2	262.8	343.7	164.2	244.8
2012	412.3	53.2	232.5	105.7	123.7	30.9	127.7	69.7	117.7	230.6	104.0	97.7
2011	123.4	132.6	131.6	61.4	40.8	68.2	26.2	28.3	8.6	232.3	149.2	113.6
2010	181.8	1,032.8	271.4	122.8	94.4	102.4	272.4	123.0	44.4	21.0	55.3	31.0
2009	17.8	215.2	279.4	140.4	105.4	167.8	55.8	19.8	36.2	148.8	104.8	91.0
2008	128.8	99.4	229.7	128.6	57.0	37.6	131.2	82.2	119.8	84.8	137.4	201.0
2007	680.0	93.6	125.6	48.6	125.6	136.4	161.2	232.4	23.8	99.2	75.6	31.2
2006	85.4	405.4	264.8	219.2	192.0	101.6	106.4	55.8	139.0	188.4	187.6	38.8
2005	315.4	404.8	64.3	60.2	100.2	130.4	136.4	80.8	114.2	102.6	280.4	304.0

II-I. DATA

If you need to enter observation data from two or more stations

1. Click the button “Select a station”

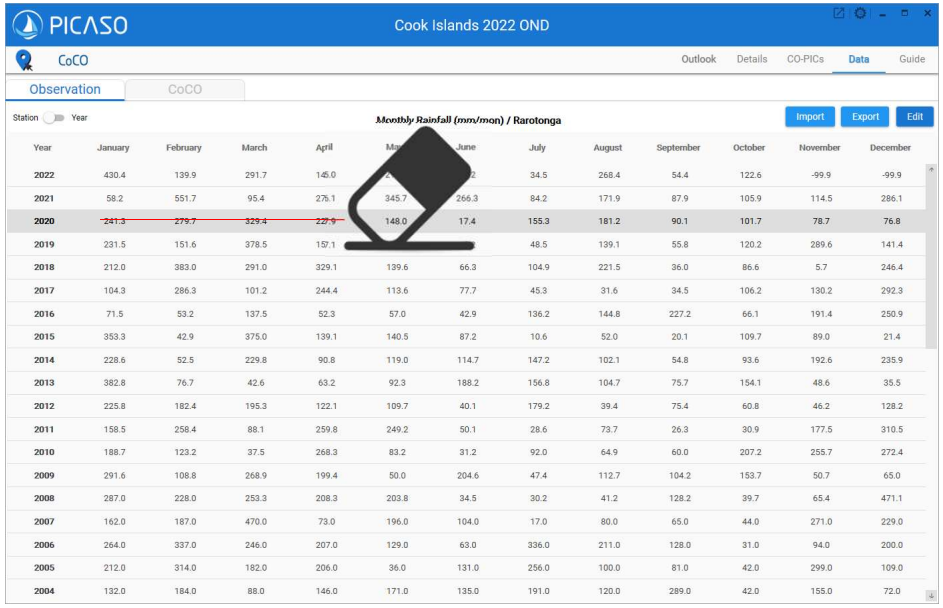
2. Check the station that required input observation values



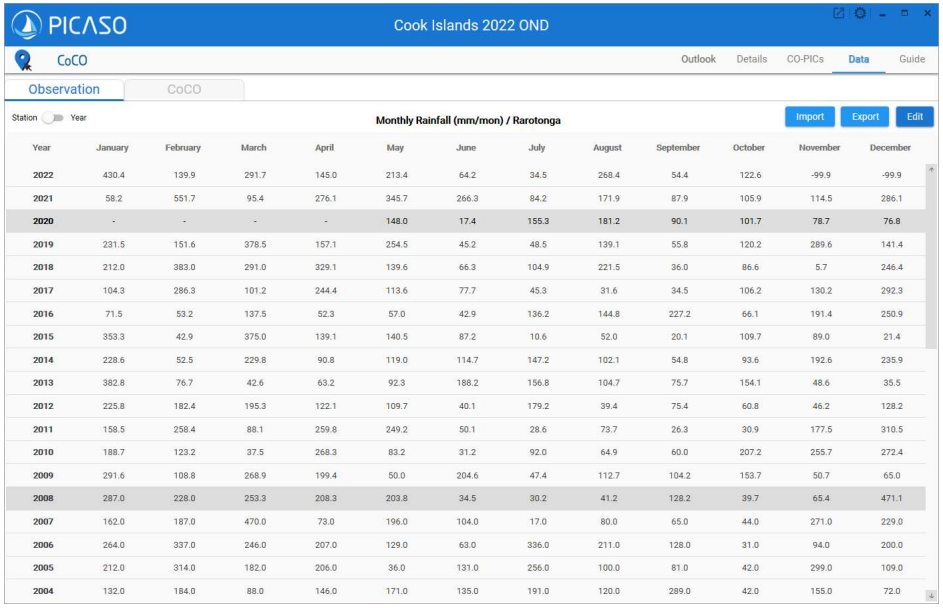
II-I. DATA

If you want to remove or modify observation data uploaded to PICASO

EDIT → Select field that need deletion → SAVE

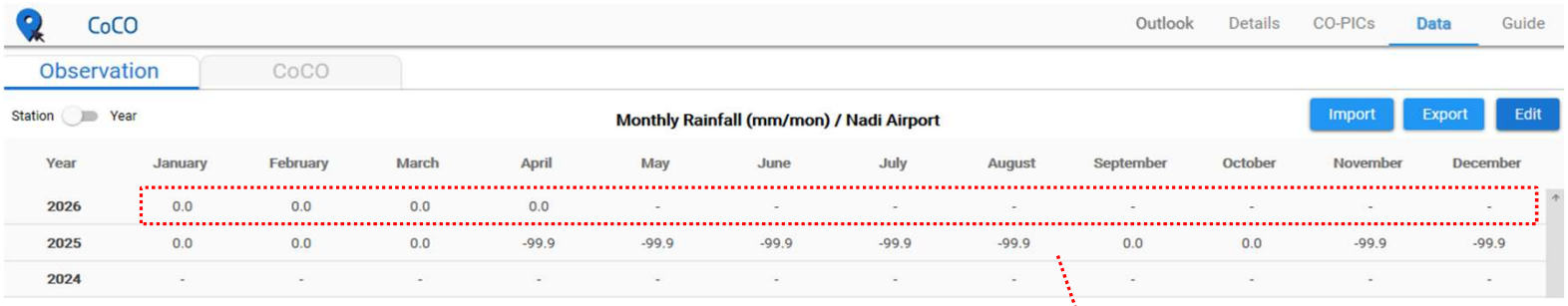


Year	January	February	March	April	May	June	July	August	September	October	November	December
2022	430.4	139.9	291.7	145.0	[illegible]	[illegible]	34.5	268.4	54.4	122.6	-99.9	-99.9
2021	58.2	551.7	95.4	276.1	345.7	266.3	84.2	171.9	87.9	105.9	114.5	286.1
2020	~~241.3~~	~~279.7~~	~~329.4~~	~~227.9~~	148.0	17.4	155.3	181.2	90.1	101.7	78.7	76.8
2019	231.5	151.6	378.5	157.1	[illegible]	[illegible]	48.5	139.1	55.8	120.2	289.6	141.4
2018	212.0	383.0	291.0	329.1	139.6	66.3	104.9	221.5	36.0	86.6	5.7	246.4
2017	104.3	286.3	101.2	244.4	113.6	77.7	45.3	31.6	34.5	106.2	130.2	292.3
2016	71.5	53.2	137.5	52.3	57.0	42.9	136.2	144.8	227.2	66.1	191.4	250.9
2015	353.3	42.9	375.0	139.1	140.5	87.2	10.6	52.0	20.1	109.7	89.0	21.4
2014	228.6	52.5	229.8	90.8	119.0	114.7	147.2	102.1	54.8	93.6	192.6	235.9
2013	382.8	76.7	42.6	63.2	92.3	188.2	156.8	104.7	75.7	154.1	48.6	35.5
2012	225.8	182.4	195.3	122.1	109.7	40.1	179.2	39.4	75.4	60.8	46.2	128.2
2011	158.5	258.4	88.1	259.8	249.2	50.1	28.6	73.7	26.3	30.9	177.5	310.5
2010	188.7	123.2	37.5	268.3	83.2	31.2	92.0	64.9	60.0	207.2	255.7	272.4
2009	291.6	108.8	268.9	199.4	50.0	204.6	47.4	112.7	104.2	153.7	50.7	65.0
2008	287.0	228.0	253.3	208.3	203.8	34.5	30.2	41.2	128.2	39.7	65.4	471.1
2007	162.0	187.0	470.0	73.0	196.0	104.0	17.0	80.0	65.0	44.0	271.0	229.0
2006	264.0	337.0	246.0	207.0	129.0	63.0	336.0	211.0	128.0	31.0	94.0	200.0
2005	212.0	314.0	182.0	206.0	36.0	131.0	256.0	100.0	81.0	42.0	299.0	109.0
2004	132.0	184.0	88.0	146.0	171.0	135.0	191.0	120.0	289.0	42.0	155.0	72.0

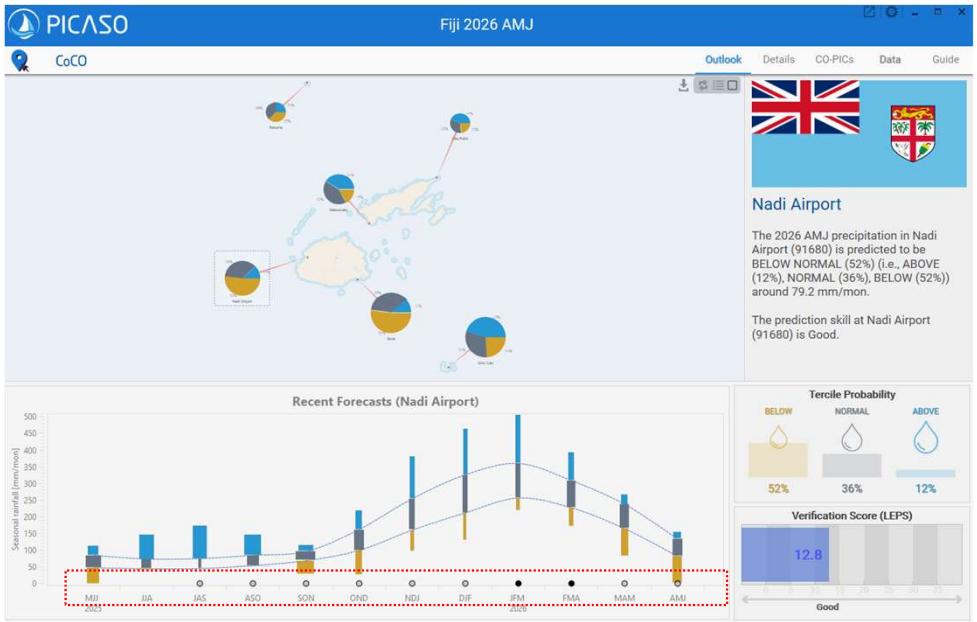


Year	January	February	March	April	May	June	July	August	September	October	November	December
2022	430.4	139.9	291.7	145.0	213.4	64.2	34.5	268.4	54.4	122.6	-99.9	-99.9
2021	58.2	551.7	95.4	276.1	345.7	266.3	84.2	171.9	87.9	105.9	114.5	286.1
2020	-	-	-	-	148.0	17.4	155.3	181.2	90.1	101.7	78.7	76.8
2019	231.5	151.6	378.5	157.1	254.5	45.2	48.5	139.1	55.8	120.2	289.6	141.4
2018	212.0	383.0	291.0	329.1	139.6	66.3	104.9	221.5	36.0	86.6	5.7	246.4
2017	104.3	286.3	101.2	244.4	113.6	77.7	45.3	31.6	34.5	106.2	130.2	292.3
2016	71.5	53.2	137.5	52.3	57.0	42.9	136.2	144.8	227.2	66.1	191.4	250.9
2015	353.3	42.9	375.0	139.1	140.5	87.2	10.6	52.0	20.1	109.7	89.0	21.4
2014	228.6	52.5	229.8	90.8	119.0	114.7	147.2	102.1	54.8	93.6	192.6	235.9
2013	382.8	76.7	42.6	63.2	92.3	188.2	156.8	104.7	75.7	154.1	48.6	35.5
2012	225.8	182.4	195.3	122.1	109.7	40.1	179.2	39.4	75.4	60.8	46.2	128.2
2011	158.5	258.4	88.1	259.8	249.2	50.1	28.6	73.7	26.3	30.9	177.5	310.5
2010	188.7	123.2	37.5	268.3	83.2	31.2	92.0	64.9	60.0	207.2	255.7	272.4
2009	291.6	108.8	268.9	199.4	50.0	204.6	47.4	112.7	104.2	153.7	50.7	65.0
2008	287.0	228.0	253.3	208.3	203.8	34.5	30.2	41.2	128.2	39.7	65.4	471.1
2007	162.0	187.0	470.0	73.0	196.0	104.0	17.0	80.0	65.0	44.0	271.0	229.0
2006	264.0	337.0	246.0	207.0	129.0	63.0	336.0	211.0	128.0	31.0	94.0	200.0
2005	212.0	314.0	182.0	206.0	36.0	131.0	256.0	100.0	81.0	42.0	299.0	109.0
2004	132.0	184.0	88.0	146.0	171.0	135.0	191.0	120.0	289.0	42.0	155.0	72.0

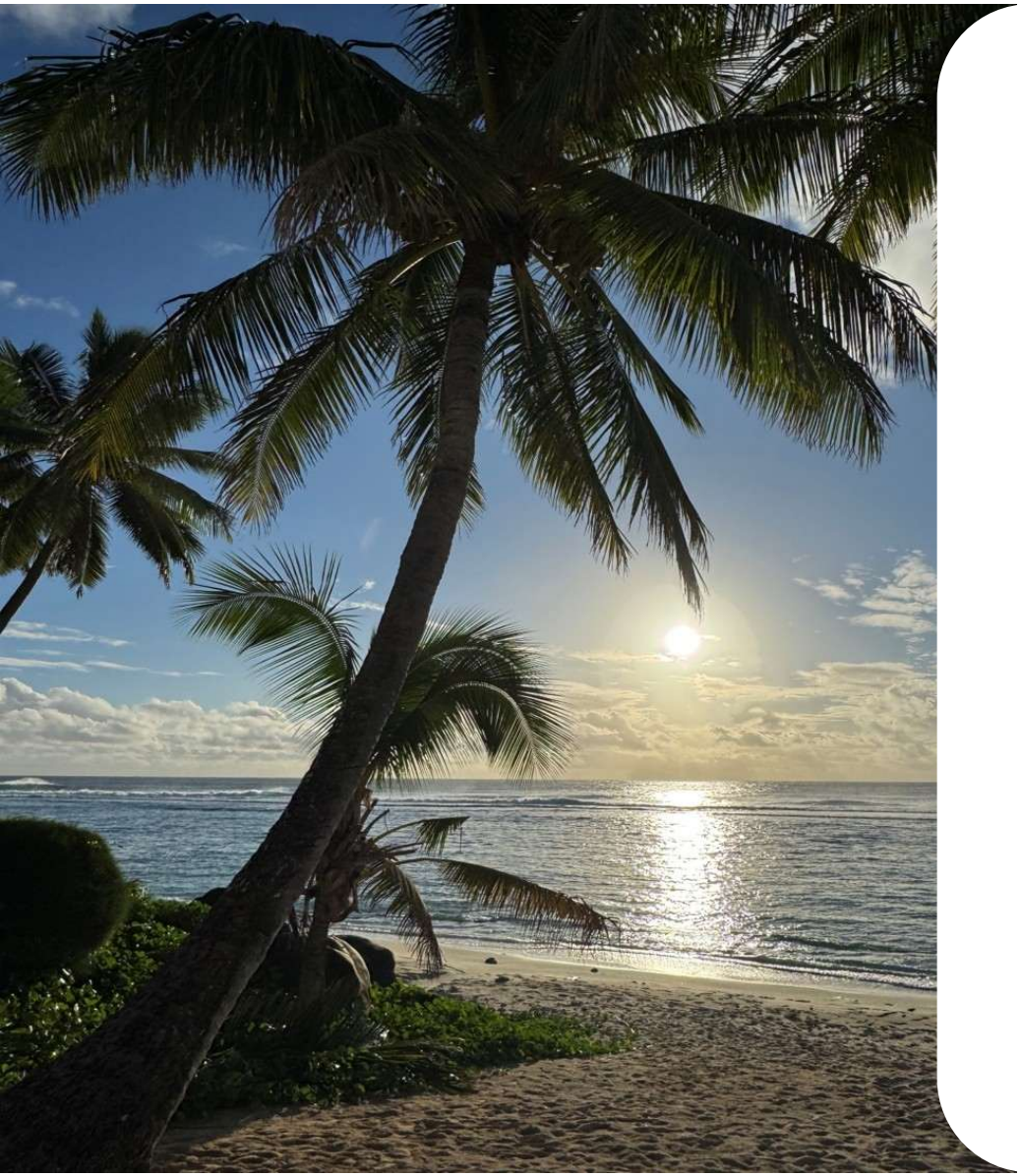
II-I. DATA



Year	January	February	March	April	May	June	July	August	September	October	November	December
2026	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-
2025	0.0	0.0	0.0	-99.9	-99.9	-99.9	-99.9	-99.9	0.0	0.0	-99.9	-99.9
2024	-	-	-	-	-	-	-	-	-	-	-	-



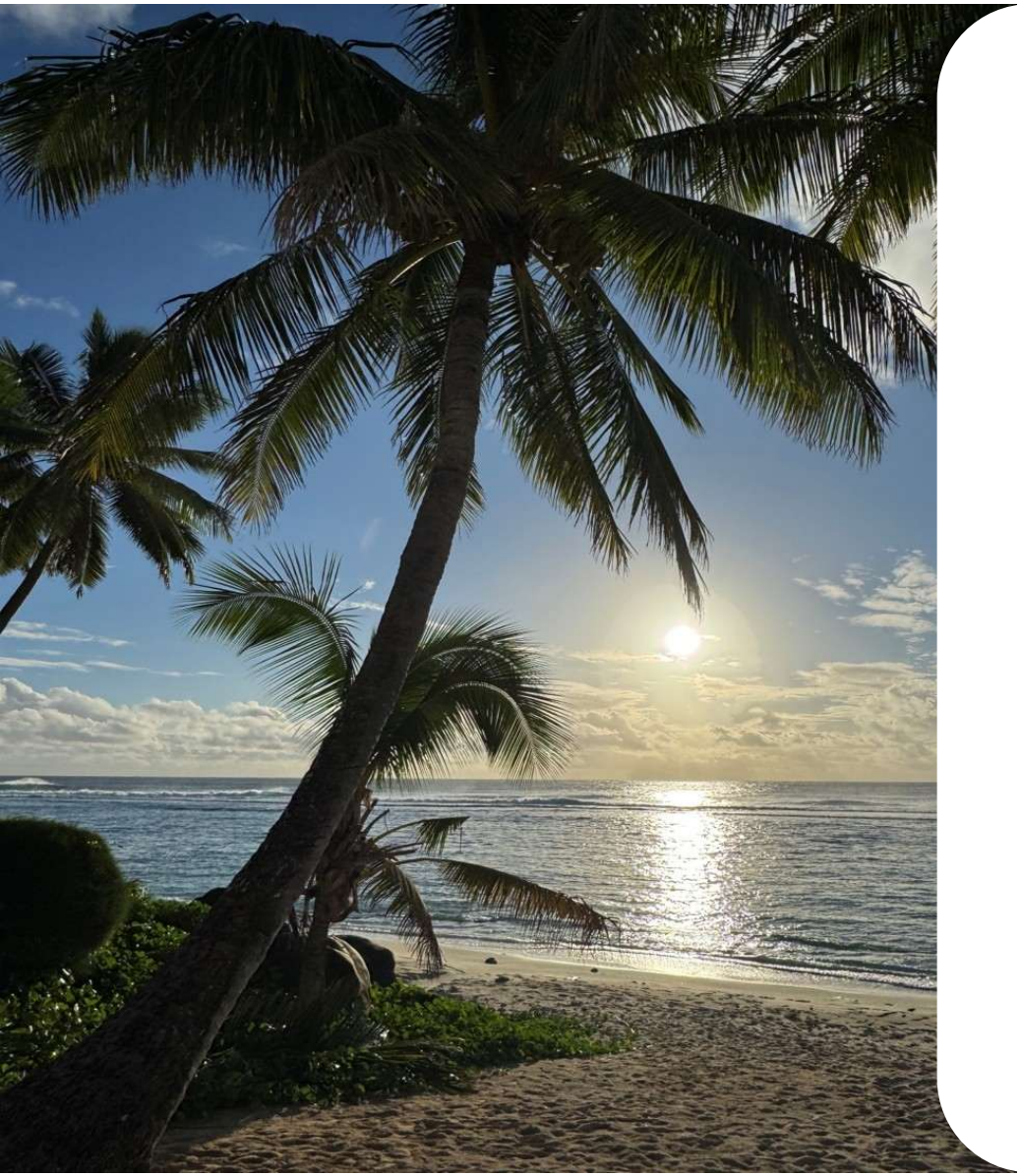
Missing value: -999.9



PICASO

Hands-on :

1. Upload your observation data in the station file to the PICASO
2. Save current data file



PICASO

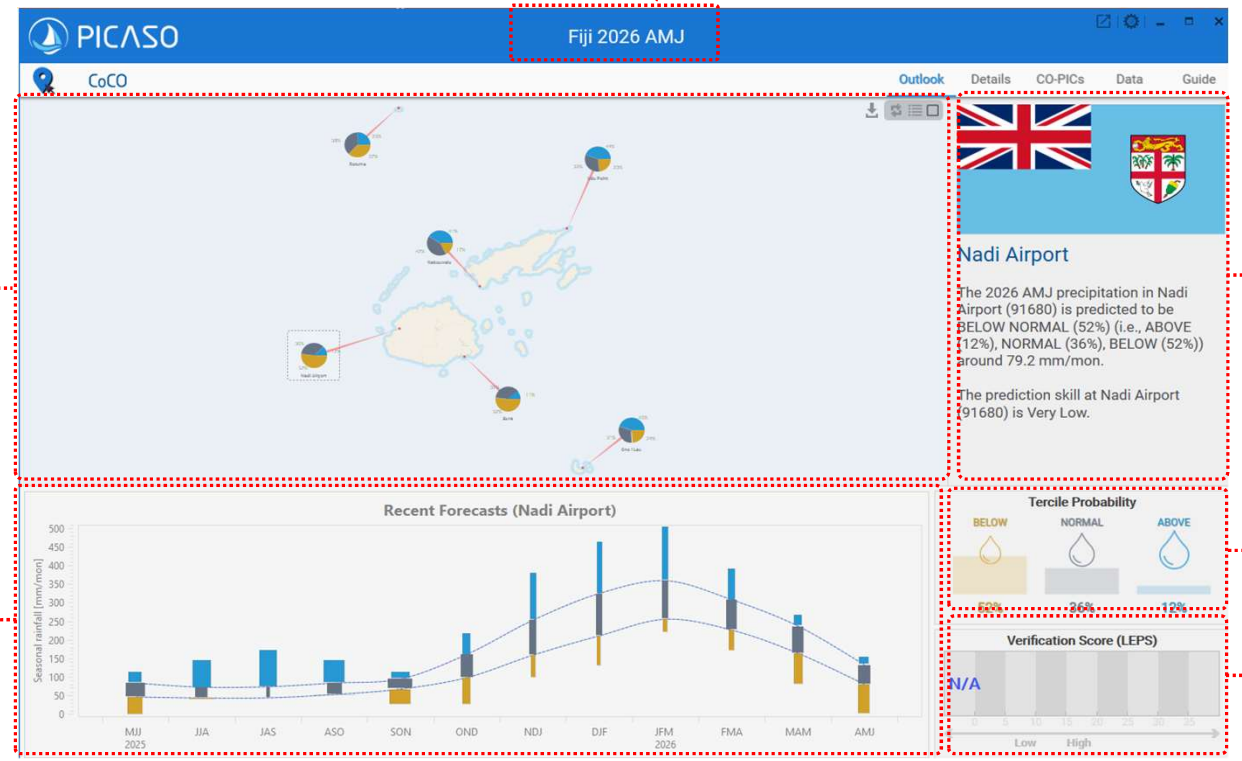
II-II. Function of PICASO

Outlook

- Tercile/Recent Forecasts
- Verification Scores
- Natural Language Outlook

II-II. Outlook

PICASO's current settings (Country / Year / Season)



Main Vector Map

Natural Language Forecast

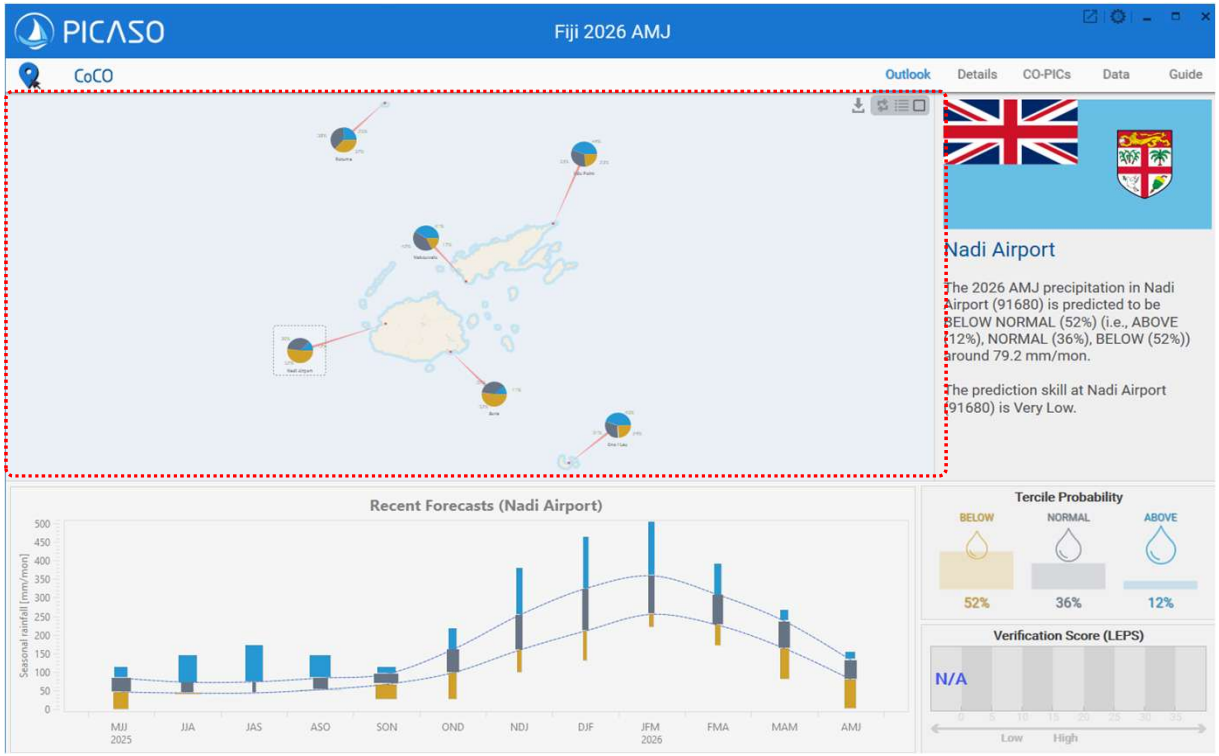
Recent Forecasts Chart

Tercile Probability

Verification Score (LEPS)

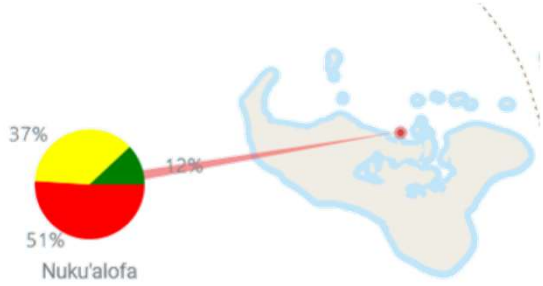
Outlook is a tab that displays the seasonal forecasts of all of the stations in one country on the map and displays detailed seasonal forecasts for each selected station.

II-II. Outlook



Main Vector Map

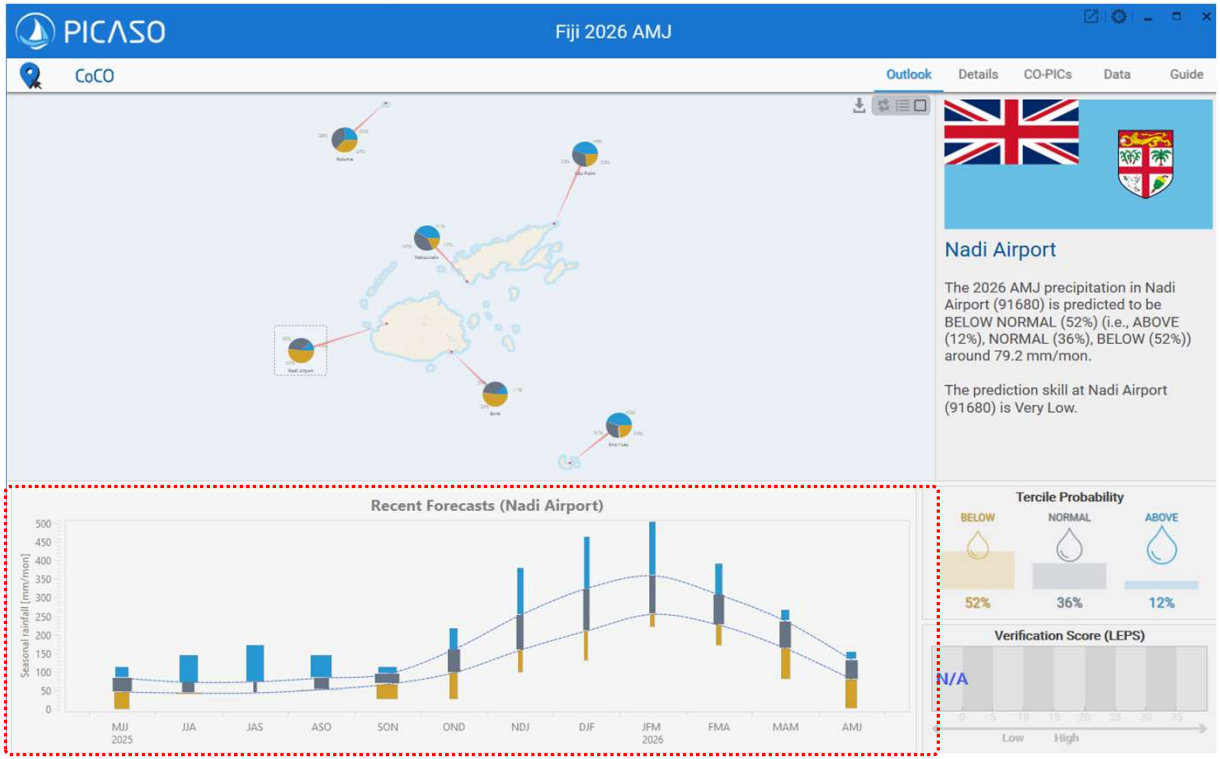
The "Pie chart" displays the station name and the predicted probability for each category (below, normal, above) for precipitation levels



Zoom-in & out is possible

Move the position of the pie chart

II-II. Outlook

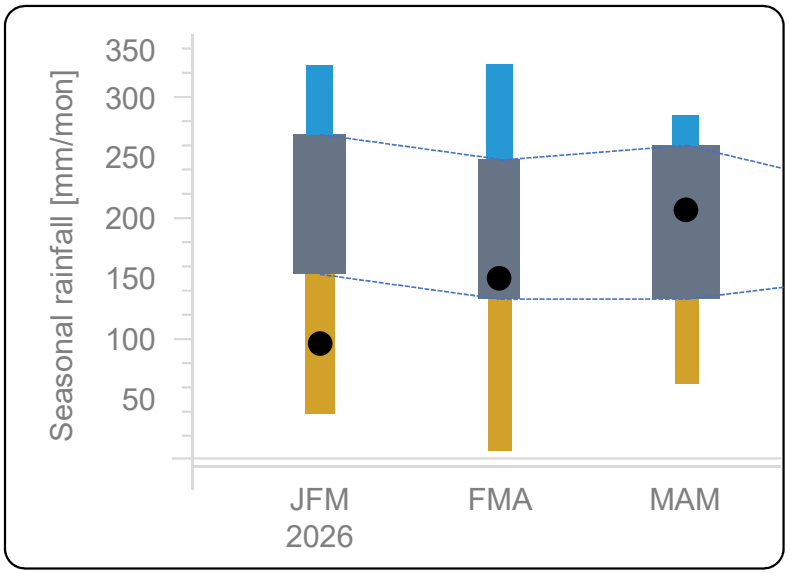


Recent Forecasts Chart

Shows the seasonal rainfall observations and forecasts for the last 12 seasons as timeseries with the dots indicating actual observations and the bars indicating the probabilistic tercile forecasts.

Outlook

Recent Forecasts Chart



Bars

The tercile probabilities as well as the ranges for the three categories of below normal, normal, and above normal rainfall, and the upper and lower limits of the bar correspond to the upper / lower 5% of the predicted probability distribution. Area of each category in the bar proportional to the probability of each predicted category

Dashed Line

The reference information that is used to divide the three categories, which is equal to the tercile reference value of the observed precipitation climate value for the training period.

Dots

The observation data is expressed as dots.

Monthly Precipitation (mm/mon)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL
2022	423	269	153.2	0	-99.9	-99.9	-99.9

JFM = (423 + 269 + 153.2)/3 — 3-mon Obs. Data complete ●

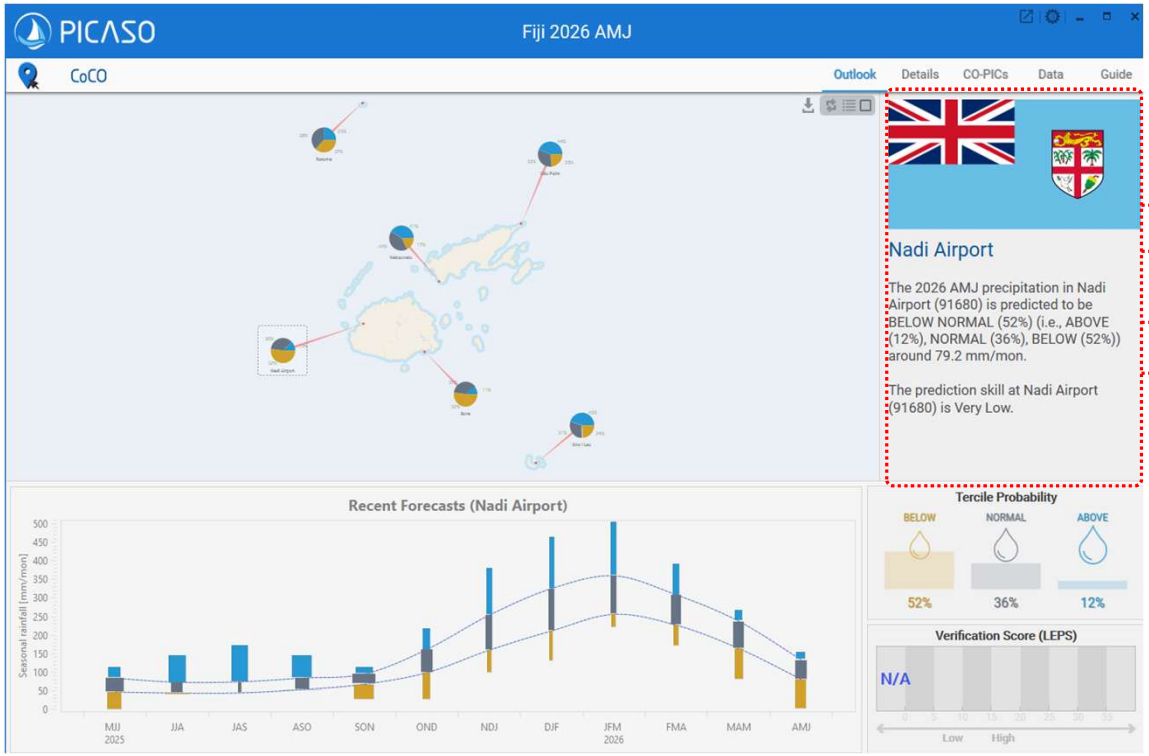
FMA = (269 + 153.2 + 0)/3 — 3-mon Obs. Data complete ●

MAM = (153.2 + 0 + (-99.9))/3 — 3-mon Obs. Data incomplete ○

MJJ = ((-99.9) + (-99.9) + (-99.9))/3 — 3-mon Obs. Data incomplete NOTHING

0 means observed value, but **-99.9** means missing

II-II. Outlook



Country flag

Station name

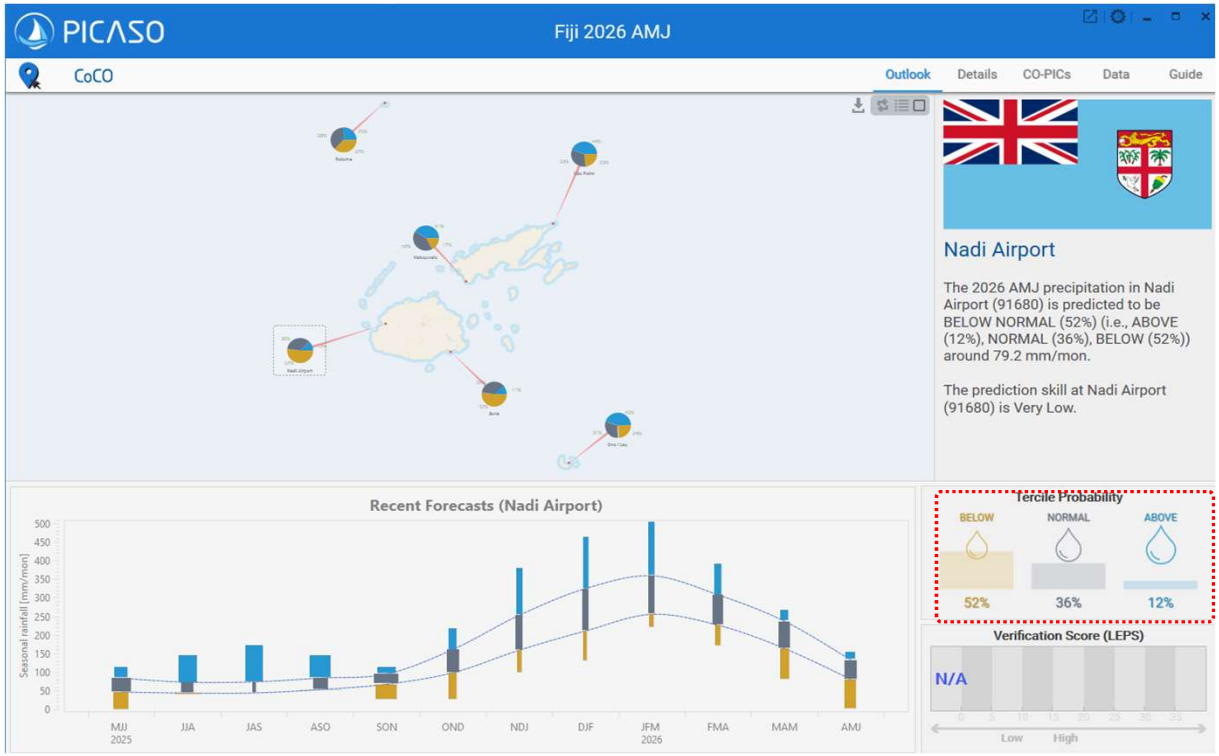
Outlook Information

Prediction Performance

Natural Language Forecast

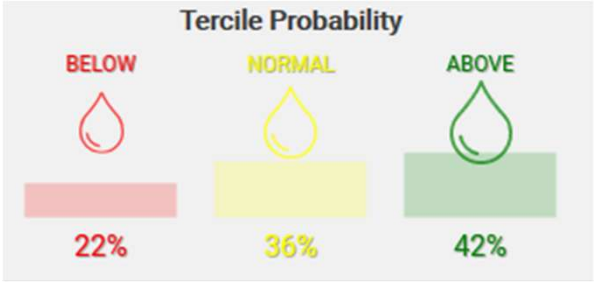
Less experienced users can easily understand the essential contents.

II-II. Outlook

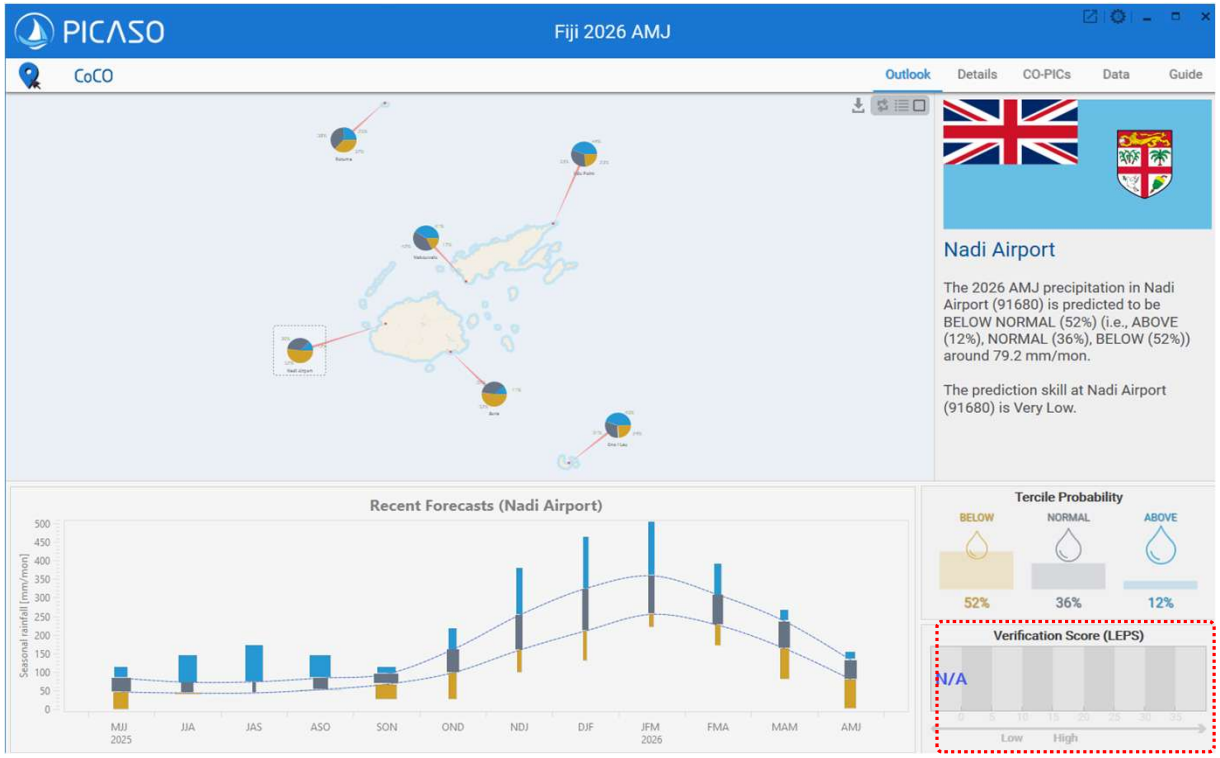


Tercile Probability

The 2026 AMJ precipitation in Niuafoou(91772) is predicted to be ABOVE NORMAL (42%) (i.e., ABOVE (79%), NORMAL (17%), BELOW (4%)) around 211.5 mm/mon.



II-II. Outlook



Verification Score (LEPS)

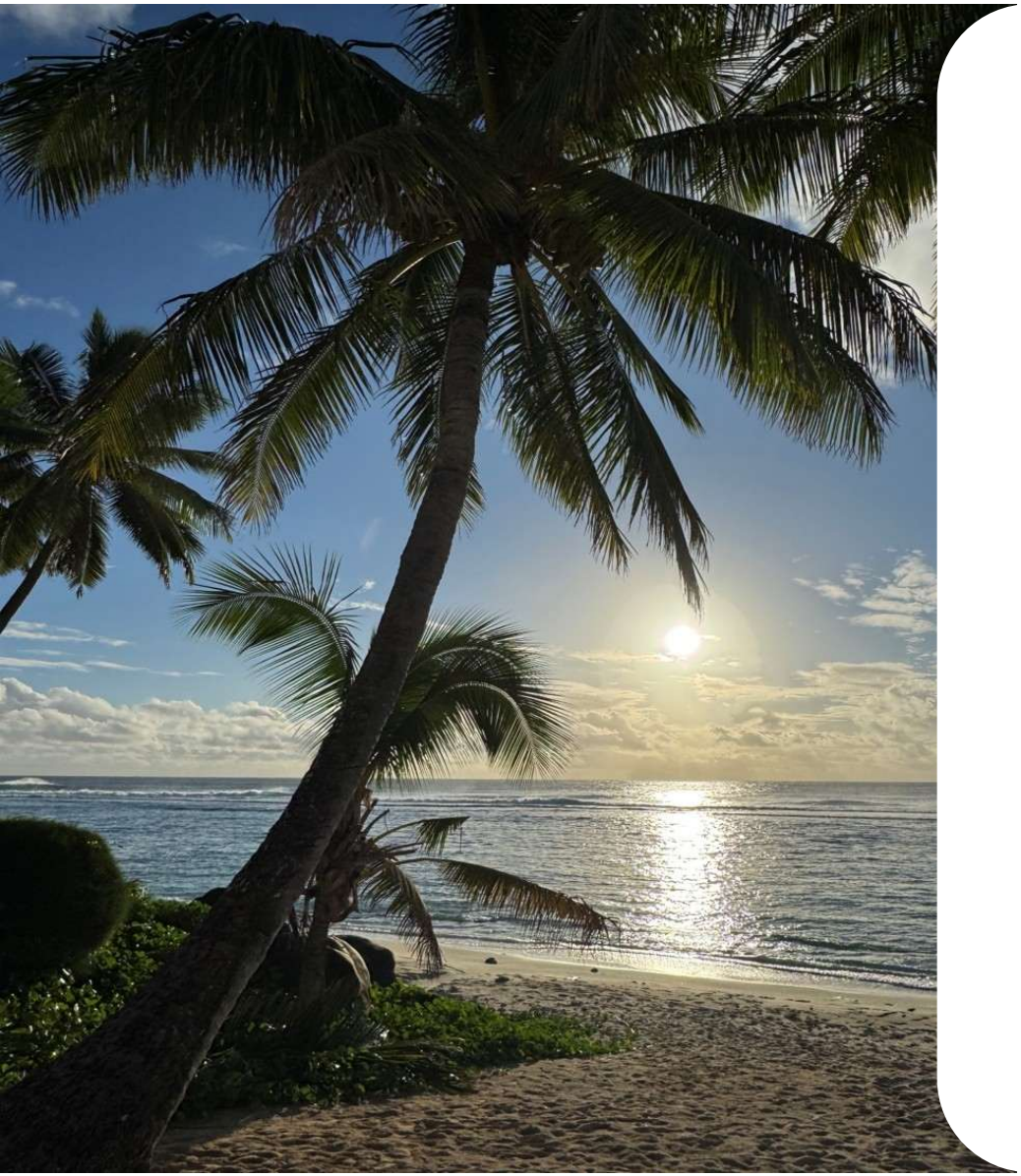
* Linear Error in Probability Space

PICASO

Prediction Data vs User input Obs. Data

Quantify the skill of prediction

LEPS < 0	0 < LEPS < 5	5 < LEPS < 10	10 < LEPS < 15	15 < LEPS < 25	25 < LEPS < 35	35 < LEPS
Very Low	Low	Moderate	Good	High	Very High	Excellent



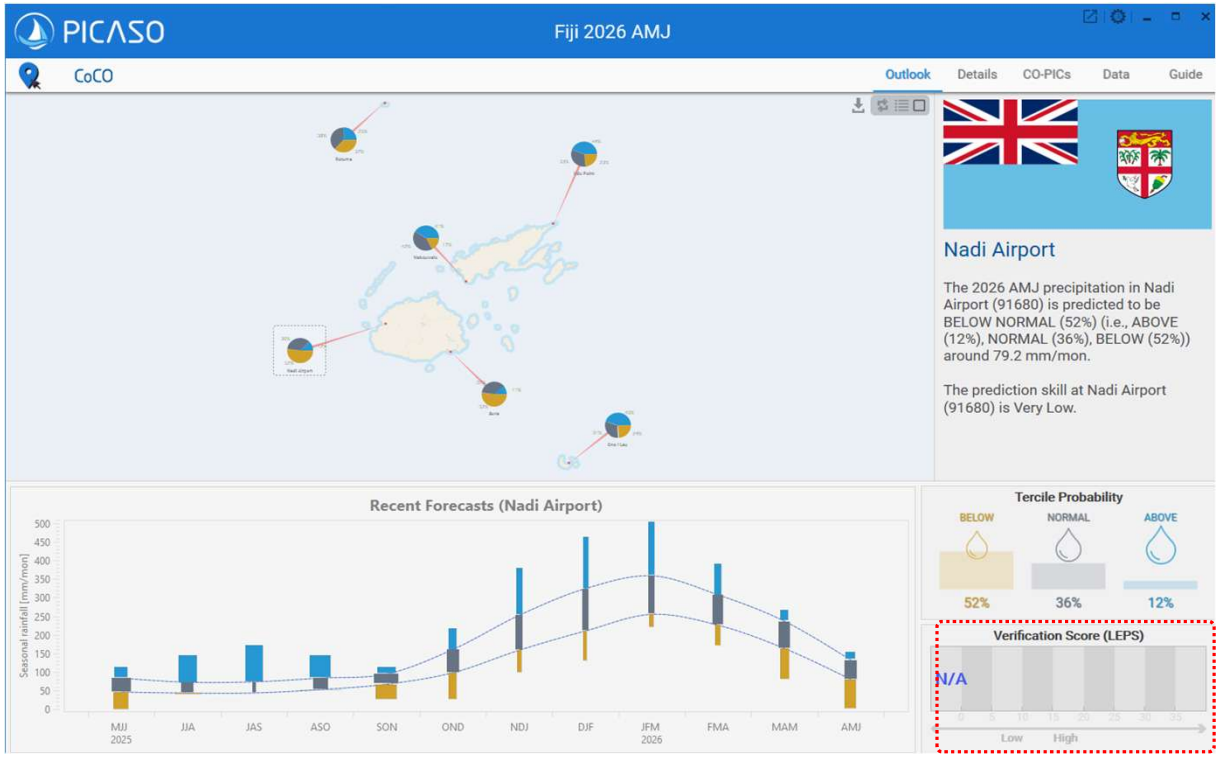
PICASO

II-III. Function of PICASO

Details

- Interactive Probability Scale
- Historical Forecast/Observation
- Training/Validation Scores

II-III. Details



Verification Score (LEPS)

* Linear Error in Probability Space

PICASO

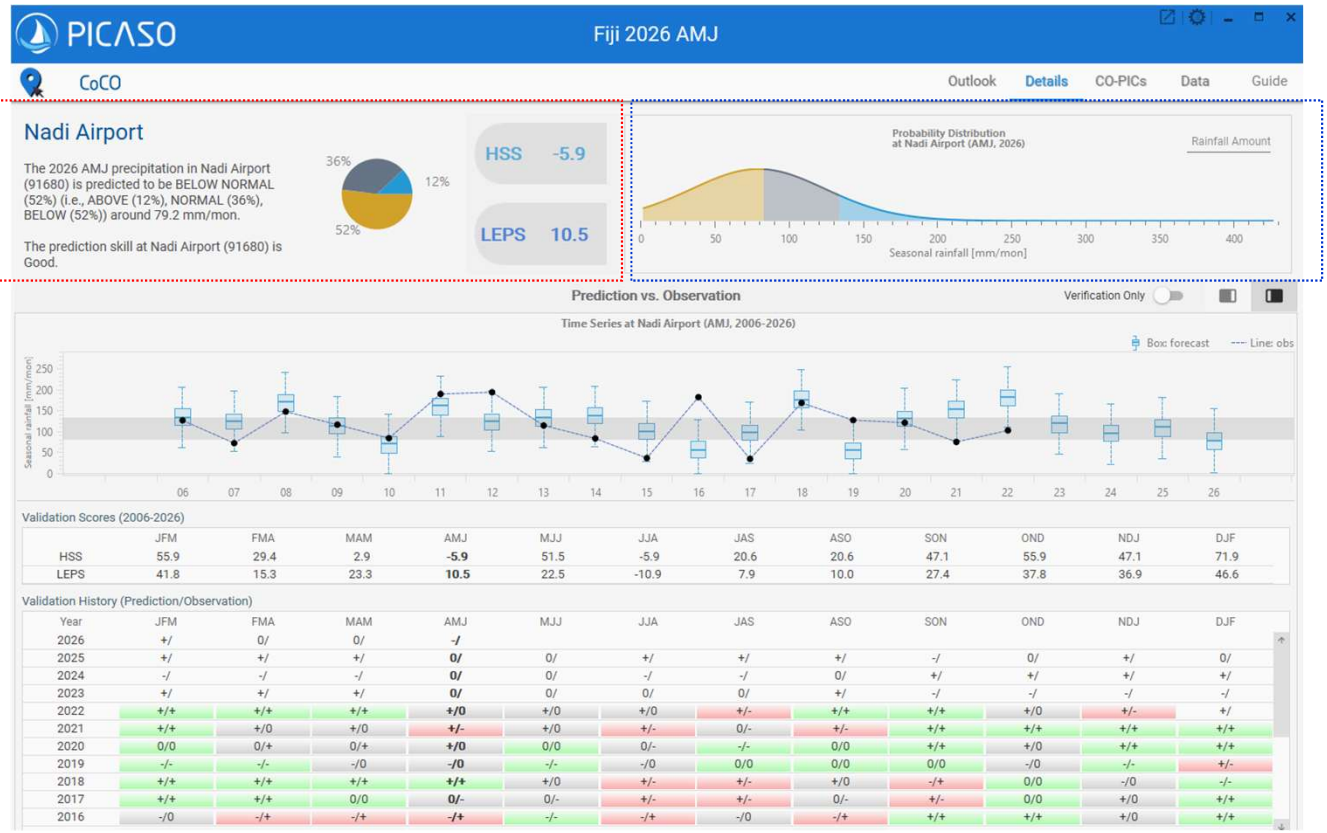
Prediction Data vs User input Obs. Data

Quantify the skill of prediction

LEPS < 0	0 < LEPS < 5	5 < LEPS < 10	10 < LEPS < 15	15 < LEPS < 25	25 < LEPS < 35	35 < LEPS
Very Low	Low	Moderate	Good	High	Very High	Excellent

II-III. Details

Summary of outlook for target year/season

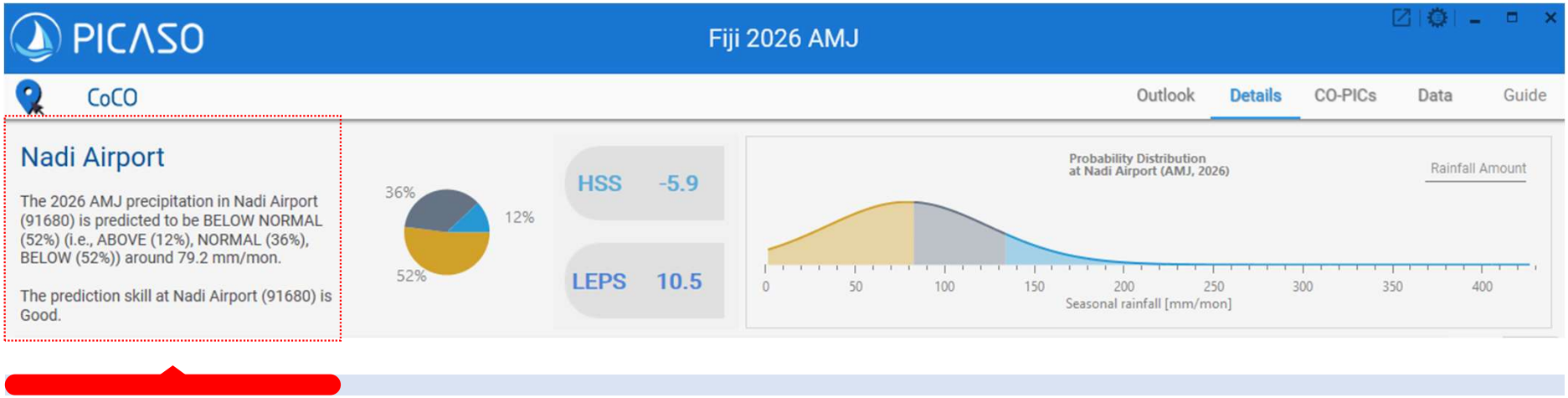


	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ	DJF
HSS	55.9	29.4	2.9	**-5.9**	51.5	-5.9	20.6	20.6	47.1	55.9	47.1	71.9
LEPS	41.8	15.3	23.3	**10.5**	22.5	-10.9	7.9	10.0	27.4	37.8	36.9	46.6

Year	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ	DJF
2026	+/	0/	0/	**-/**								
2025	+/	+/	+/	**0/**	0/	+/	+/	+/	-/	0/	+/	0/
2024	-/	-/	-/	**0/**	0/	-/	-/	0/	+/	+/	+/	+/
2023	+/	+/	+/	**0/**	0/	0/	0/	+/	-/	-/	-/	-/
2022	+/+	+/+	+/+	**+/0**	+/0	+/0	+/-	+/+	+/+	+/0	+/-	+/
2021	+/+	+/0	+/0	**+/-**	+/0	+/-	0/-	+/-	+/+	+/+	+/+	+/+
2020	0/0	0/+	0/+	**+/0**	0/0	0/-	-/-	0/0	+/+	+/0	+/+	+/+
2019	-/-	-/-	-/0	**-/0**	-/-	-/0	0/0	0/0	0/0	-/0	-/-	+/-
2018	+/+	+/+	+/+	**+/+**	+/0	+/-	+/-	+/0	-/+	0/0	-/0	-/-
2017	+/+	+/+	0/0	**0/-**	0/-	+/-	+/-	0/-	+/-	0/0	+/0	+/+
2016	-/0	-/+	-/+	**-/+**	-/-	-/+	-/0	-/+	+/+	+/+	+/0	+/+

Probability distribution for target year/season

II-III. Details



Natural language outlook

Nadi Airport

The 2026 AMJ precipitation in Nadi Airport (91680) is predicted to be BELOW NORMAL (52%)(i.e., ABOVE (12%), NORMAL (36%), BELOW (52%)) around 79.2 mm/mon.

1 2

The prediction skill at Nadi Airport (91680) is Good.

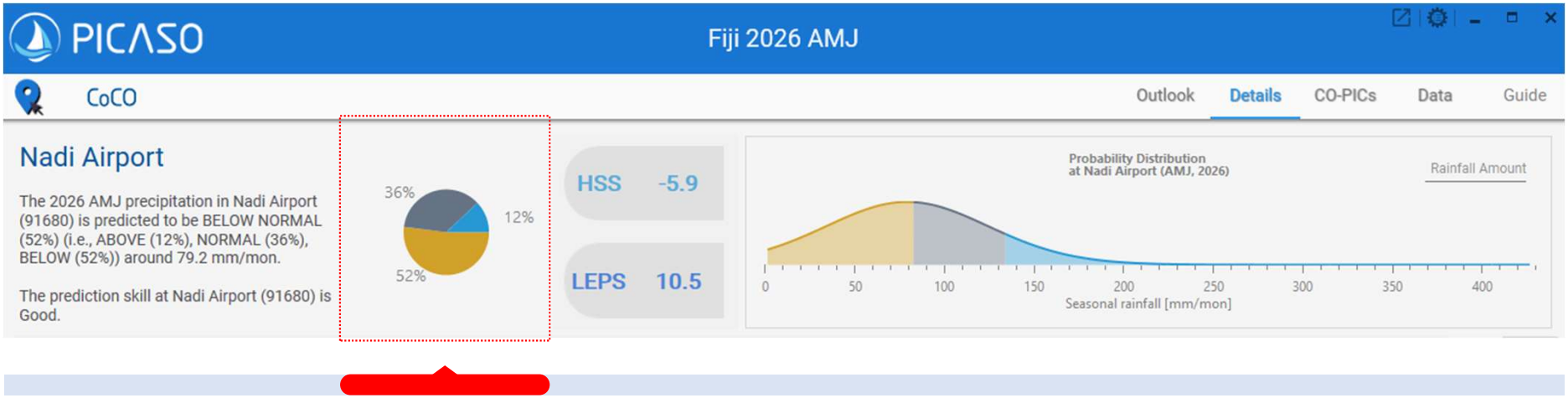
3

1 *Probabilistic forecast/Category forecast*

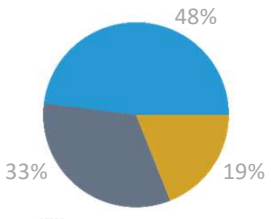
2 *Deterministic forecast*

3 *Degree of skill*

II-III. Details



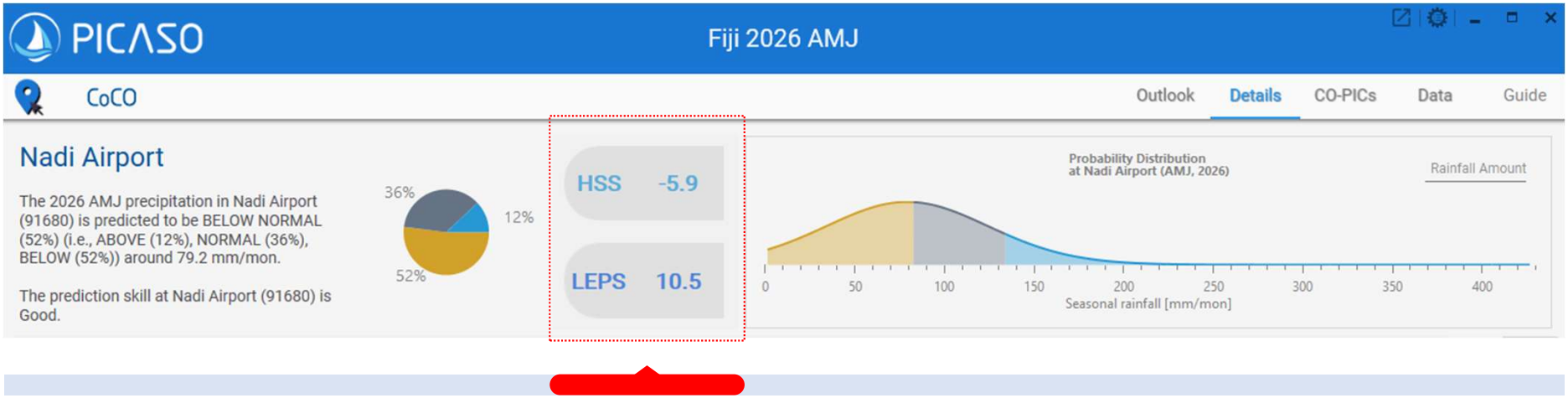
Pie graph for forecast



Visualization of probability for each category

ABOVE ***NORMAL*** ***BELOW***

II-III. Details



Skill scores

-5.9

HSS (Heidke Skill Score)

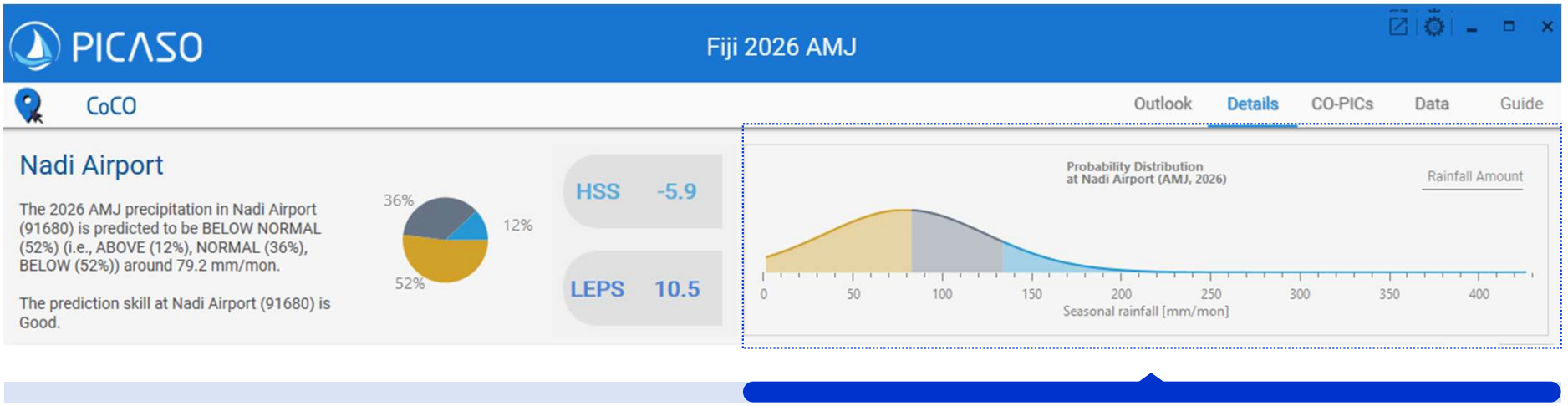
A scaled measure of the % improvement in skill relative a set of random forecasts

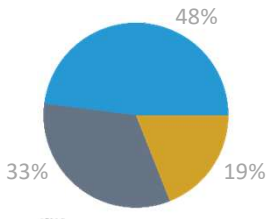
10.5

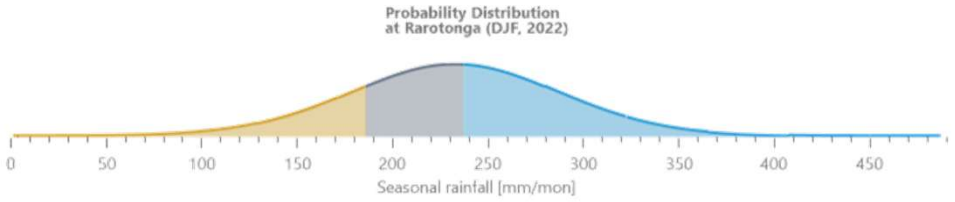
LEPS (Linear Error in Probability Space)

Measuring the error in probability space from the distance between the position of the forecast and corresponding observation in units of their respective cumulative probability distributions

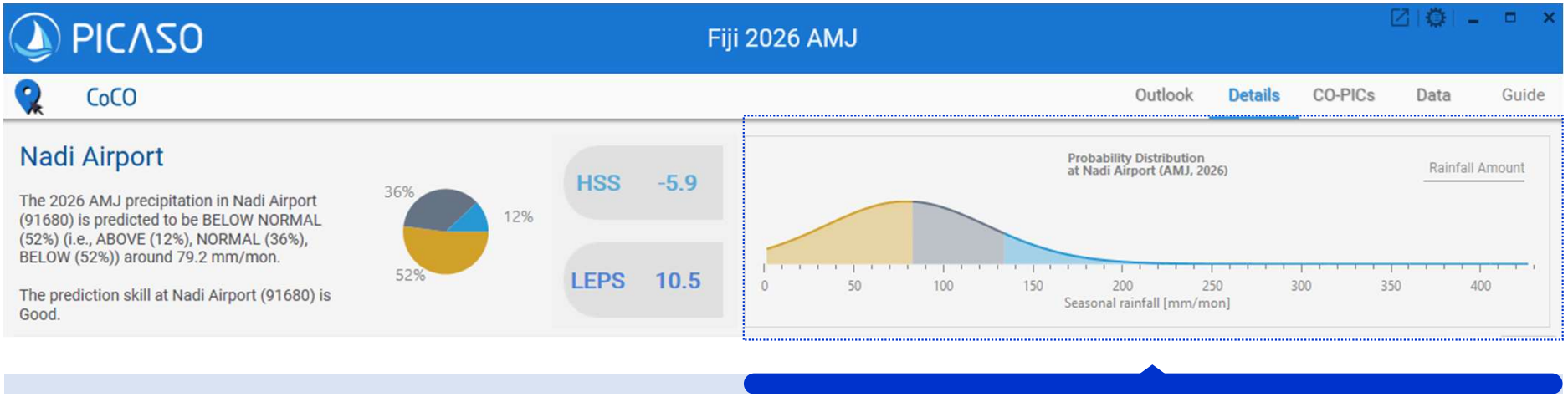
II-III. Details

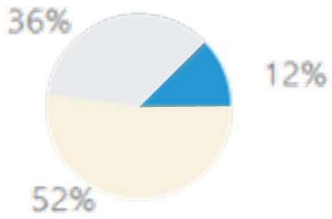


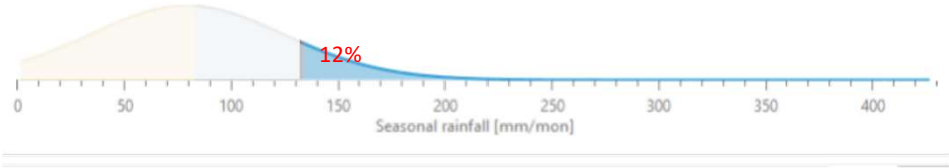




II-III. Details

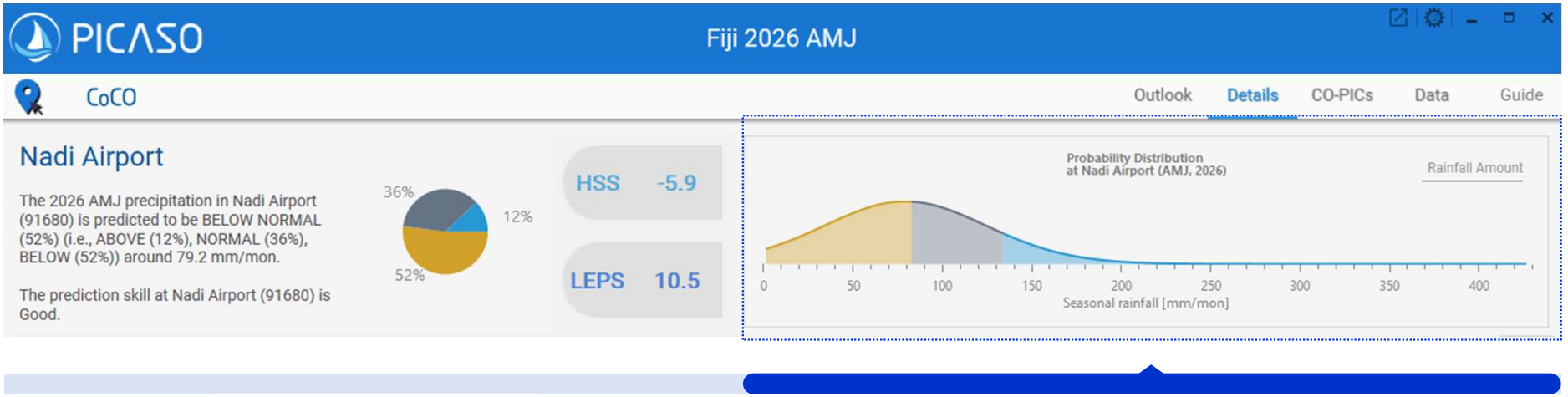


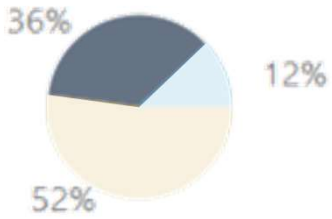


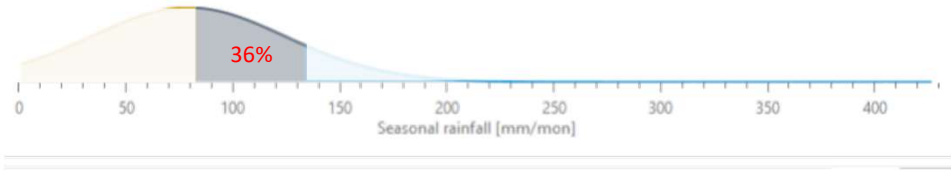


AN (ABOVE NORMAL)

II-III. Details

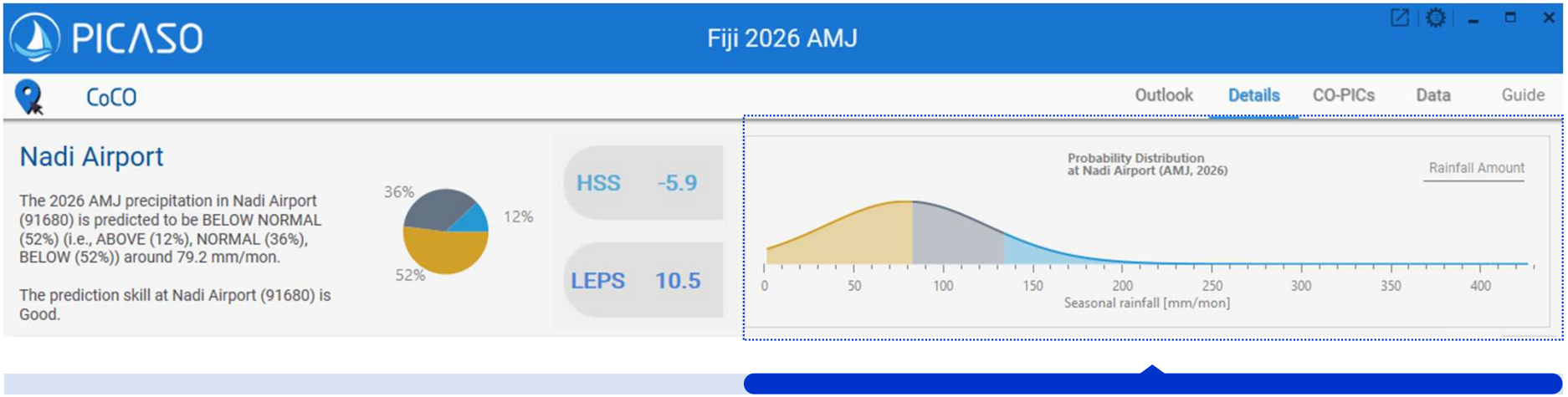


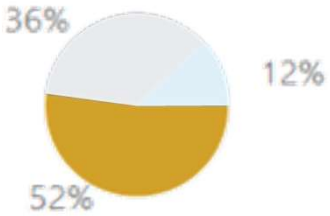


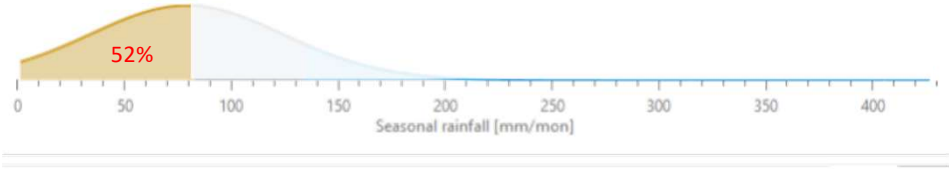


NN (NEAR NORMAL)

II-III. Details

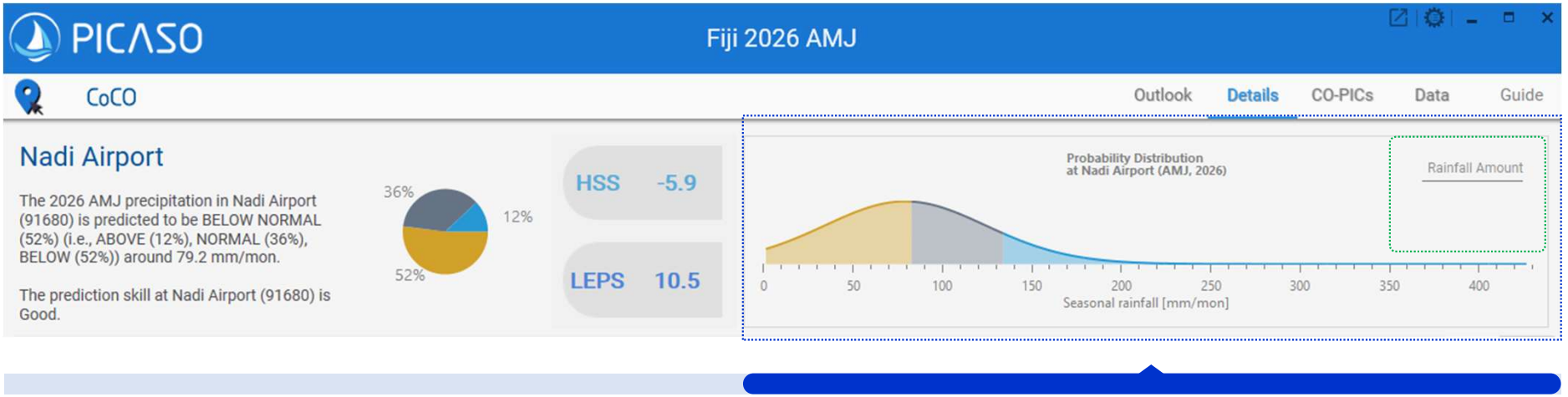




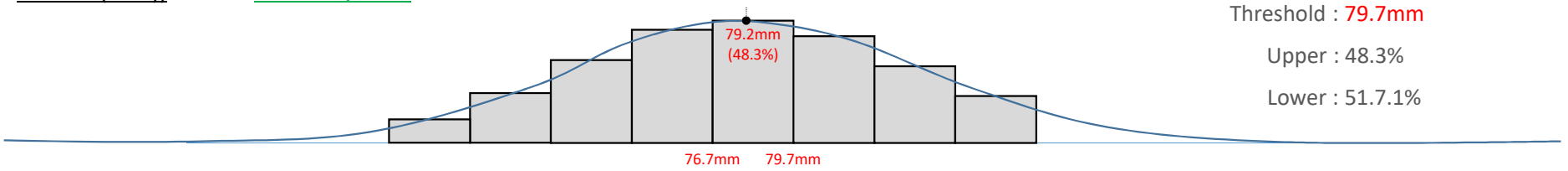


BN (BELOW NORMAL)

II-III. Details



The 2026 AMJ precipitation in Nadi Airport (91680) is predicted to be BELOW NORMAL (52%)(i.e., ABOVE (12%), NORMAL (36%), BELOW (52%)) around 79.2 mm/mon.



Rainfall Amount

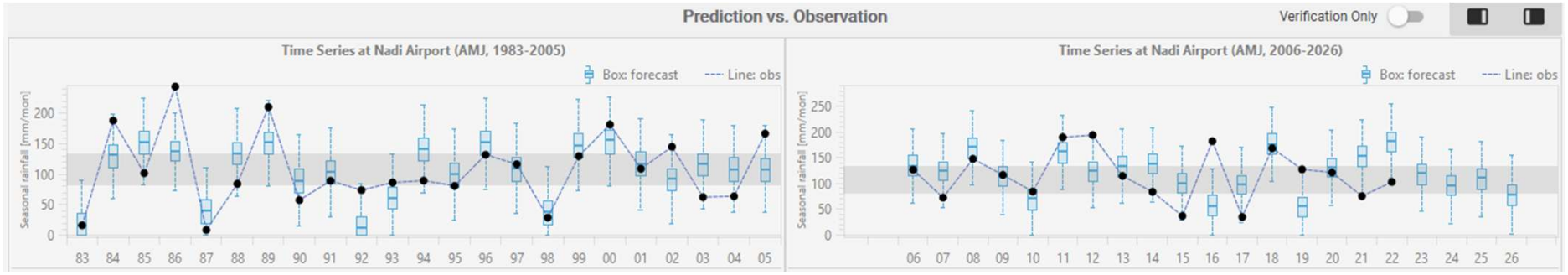
79.2

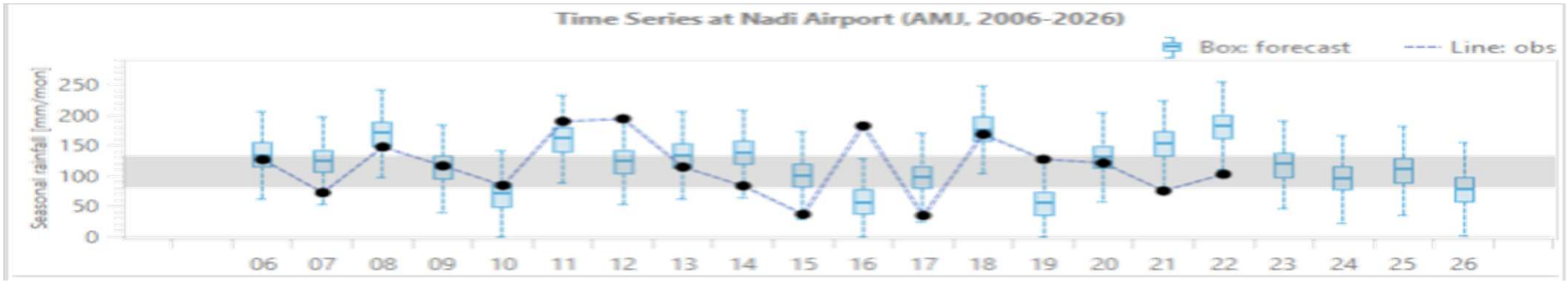
Threshold : 79.7mm

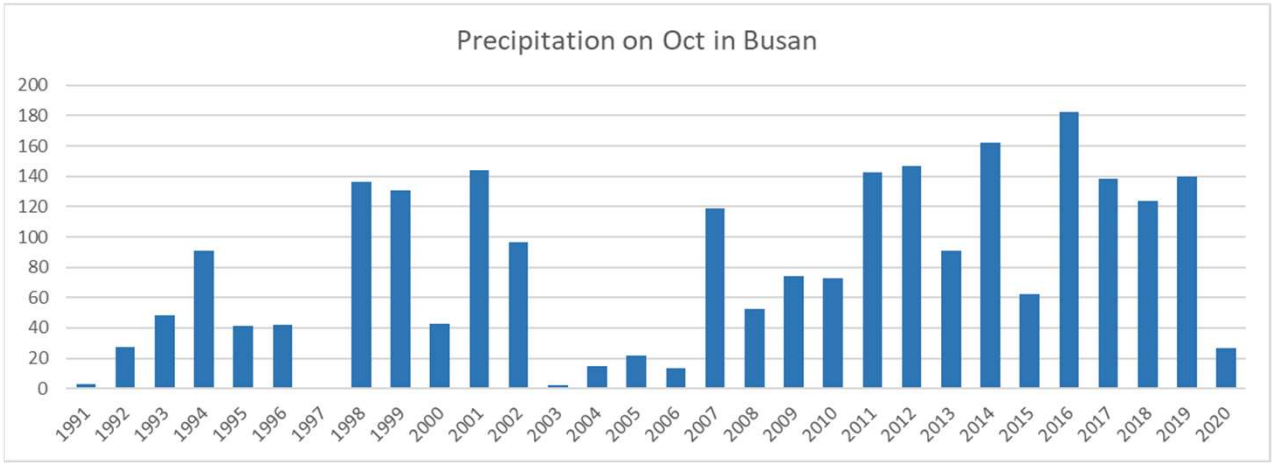
Upper : 48.3%

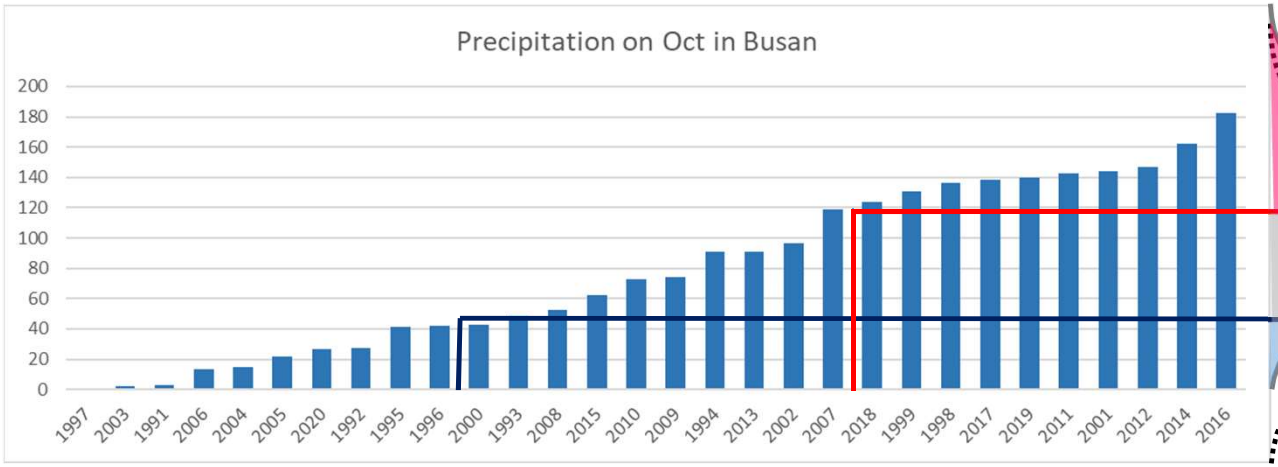
Lower : 51.7.1%

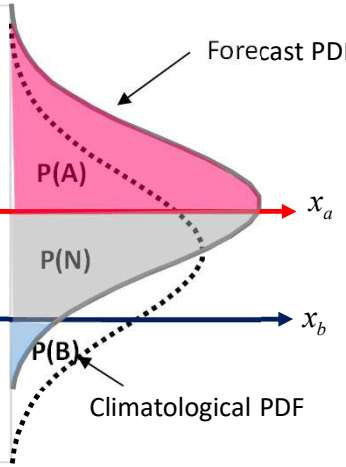
II-III. Details

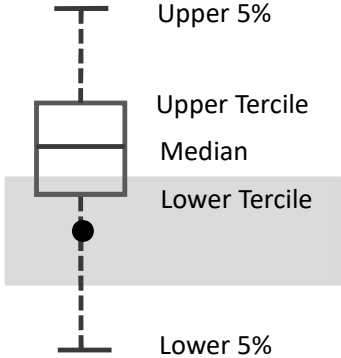




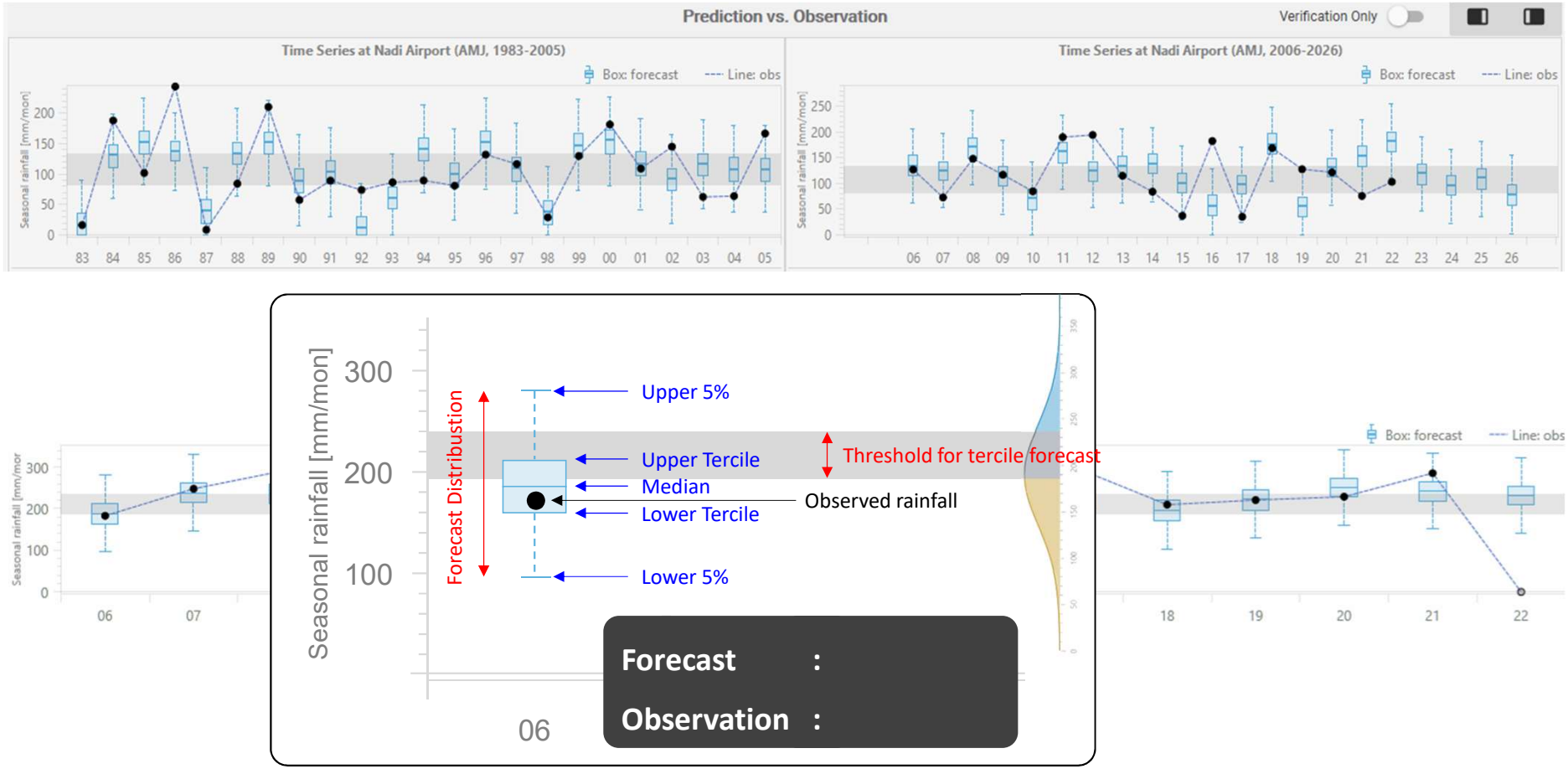

Precipitation on Oct in Busan
200
180
160
140
120
100
80
60
40
20
0
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020


Precipitation on Oct in Busan
200
180
160
140
120
100
80
60
40
20
0
1997 2003 1991 2006 2004 2005 2020 1992 1995 1996 2000 1993 2008 2015 2010 2009 1994 2013 2002 2007 2018 1999 1998 2017 2019 2011 2001 2012 2014 2016

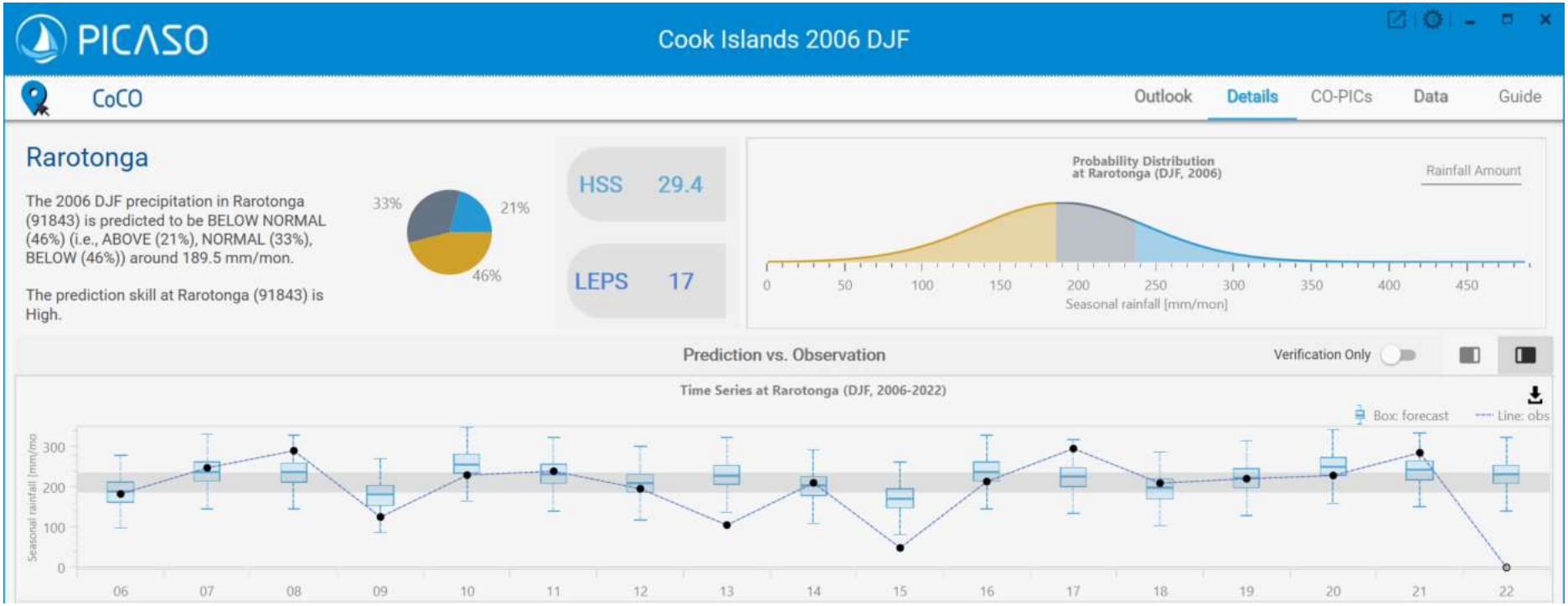

Forecast PDF
P(A)
P(N)
P(B)
x_a
x_b
Climatological PDF


Upper 5%
Upper Tercile
Median
Lower Tercile
Lower 5%

II-III. Details



II-III. Details



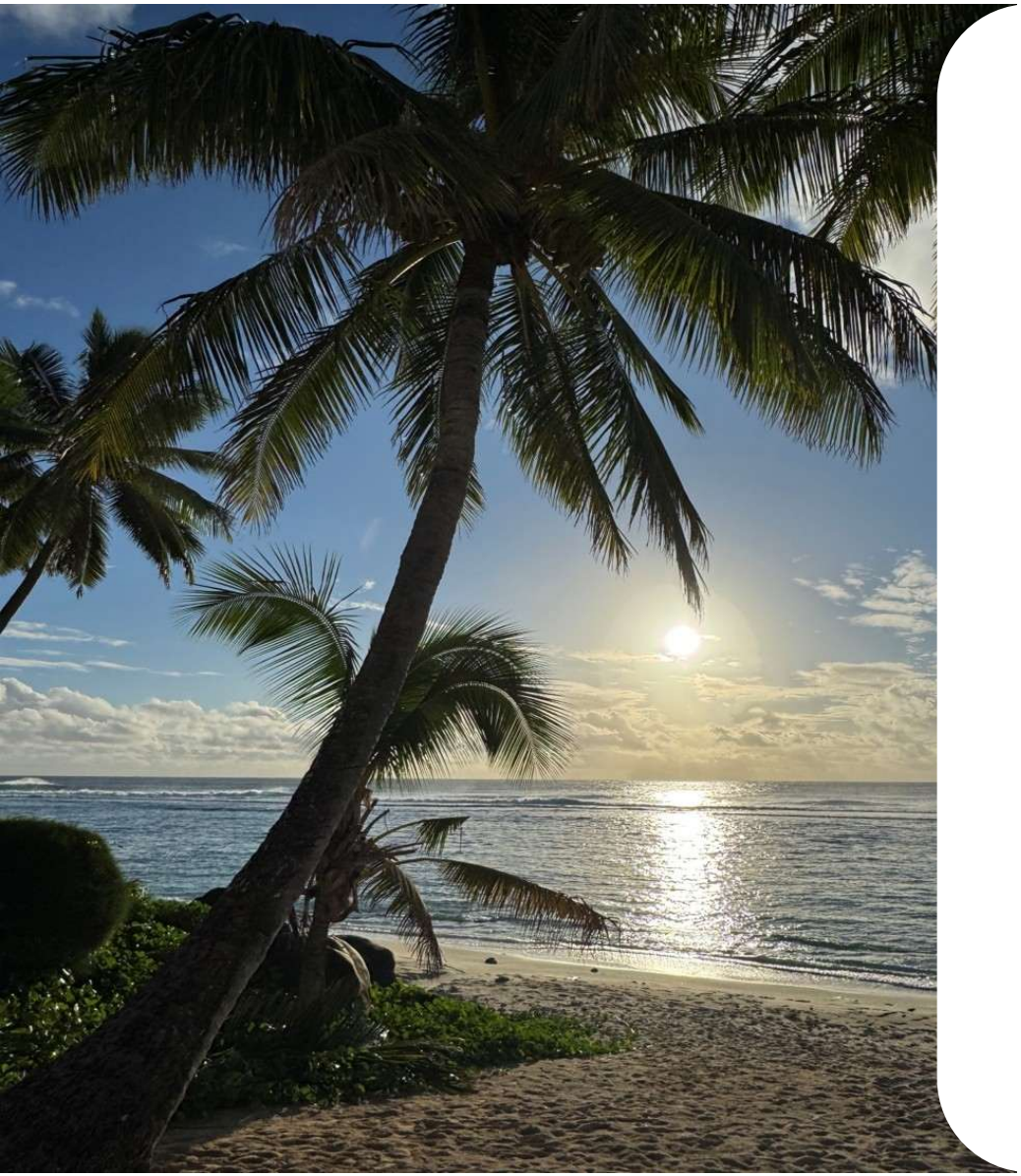
FCST.	-	+	+	-	+	+	0	+	-	-	+	+	-	+	+	+	+
OBS.	-	+	+	-	0	+	0	-	0	-	0	+	0	0	0	+	
H/F																	

II-III. Details

FCST.	-	+	+	-	+	+	0	+	-	-	+	+	-	+	+	+	+
OBS.	-	+	+	-	0	+	0	-	0	-	0	+	0	0	0	+	
H/F																	

Validation History (Prediction/Observation)

Year	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ	DJF
2023	+/	+/	+/	+/	+/	+/	-/	-/	0/	-/	-/	
2022	+/+	+/0	+/+	+/0	+/-	-/+	-/0	-/+	+/-	+/-	-/	+/
2021	+/+	+/+	+/+	+/+	+/+	+/+	-/0	+/+	+/-	+/0	+/+	+/+
2020	+/+	+/+	+/+	+/-	0/0	+/0	-/+	-/+	+/-	+/-	-/-	+/0
2019	0/+	0/+	0/+	-/0	-/0	+/-	-/-	+/0	+/+	+/+	-/+	+/0
2018	+/+	+/+	+/+	+/0	+/-	+/+	-/0	-/0	+/-	-/-	+/0	-/0
2017	+/0	+/0	0/0	0/0	+/-	+/-	-/-	-/-	+/-	+/+	-/0	+/+
2016	-/-	-/-	-/-	-/-	-/-	+/0	-/+	-/+	-/+	+/0	+/0	+/0
2015	0/+	+/0	0/+	0/-	-/-	+/-	-/-	+/-	-/-	-/-	-/-	-/-
2014	+/0	+/-	0/-	+/-	+/0	+/+	-/0	-/-	+/0	-/0	-/+	-/0
2013	+/0	+/-	+/-	+/-	+/0	+/+	-/0	-/0	+/-	0/-	+/-	+/-
2012	+/0	+/0	+/-	0/-	+/0	+/-	-/0	+/-	0/-	-/-	-/0	0/0
2011	+/0	+/0	+/0	+/0	+/0	+/-	-/-	-/-	+/-	+/0	+/+	+/+
2010	-/-	-/-	-/-	-/-	0/-	+/-	-/-	+/0	+/+	+/+	+/+	+/0
2009	+/+	+/0	+/0	0/0	+/-	+/+	+/0	-/+	0/-	-/-	-/-	-/-
2008	+/+	+/+	+/+	+/0	+/-	+/-	-/-	+/-	+/-	+/+	-/+	+/+
2007	0/+	0/+	0/+	+/-	+/-	+/-	-/-	-/-	+/0	+/+	-/+	+/+
2006	+/+	+/+	+/0	+/-	+/+	+/+	+/+	-/+	+/-	-/-	-/-	-/-



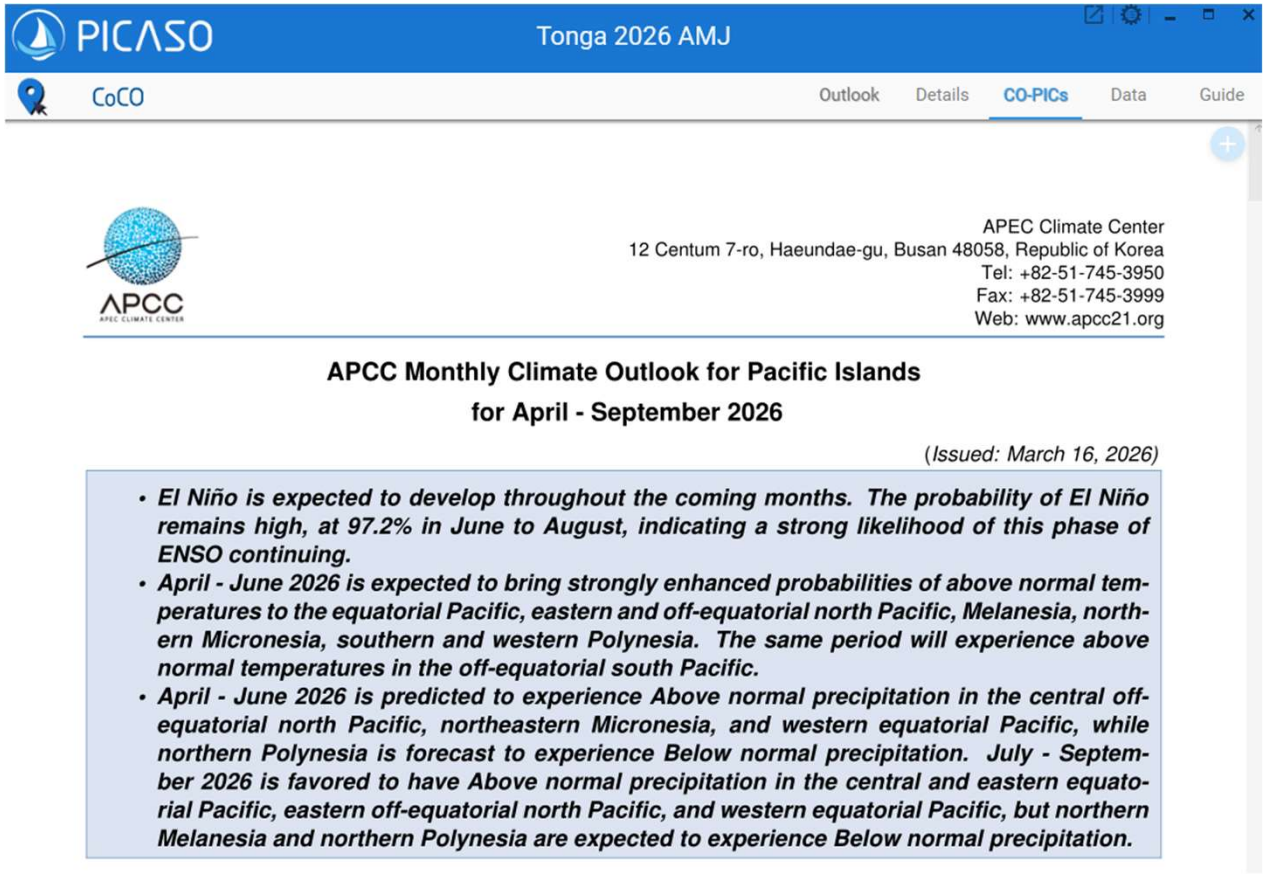
PICASO

II-IV. Function of PICASO

CO-PICs

- ENSO/SST Outlook
- Temperature/Precipitation
- Validation and Verification

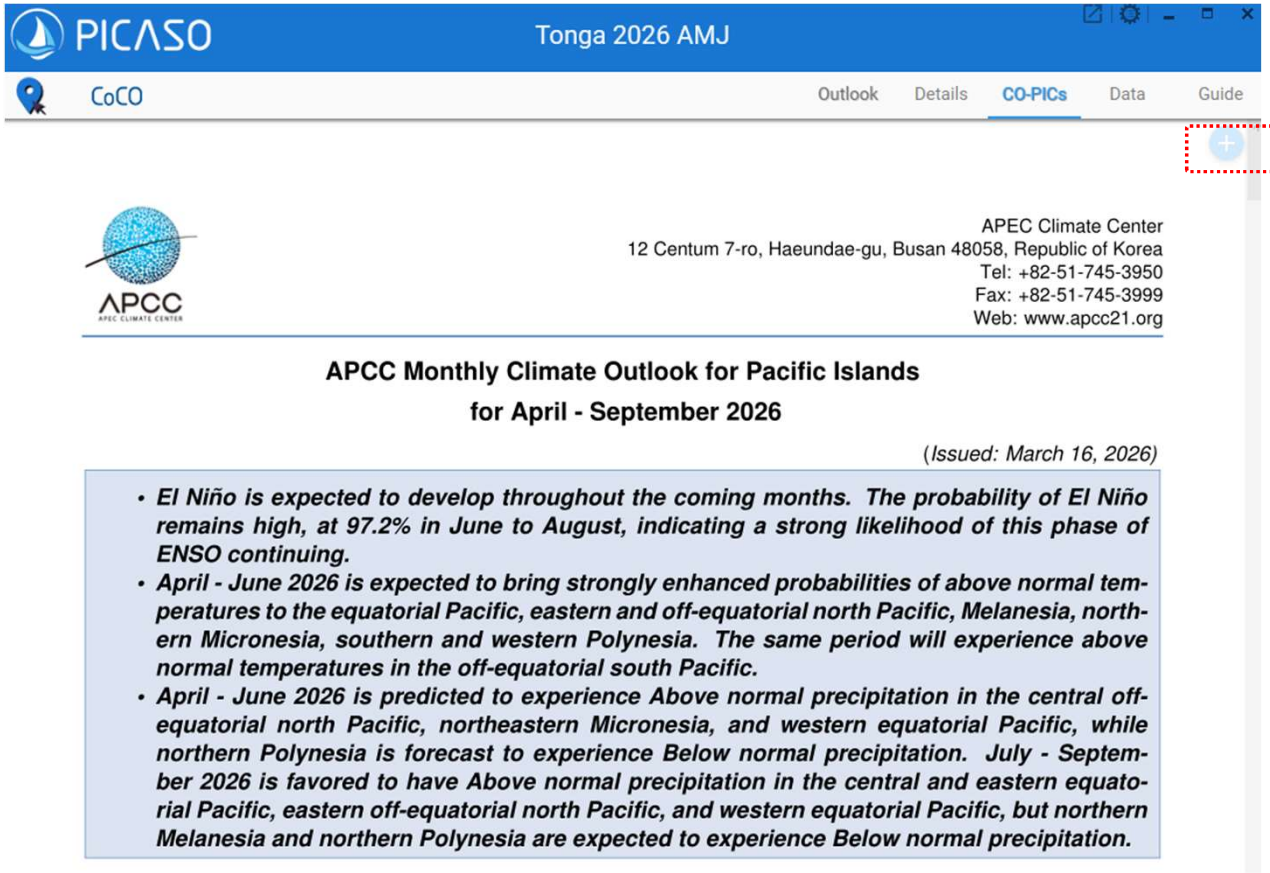
II-IV. CO-PICs



Climate Outlook-Pacific Island Countries

- CO-PICs will display the PDF file provided by APCC on the Pacific Island 6-month climate forecast screen based on Global data.
- It provides regional details for probabilistic prediction & verification information over the regions.

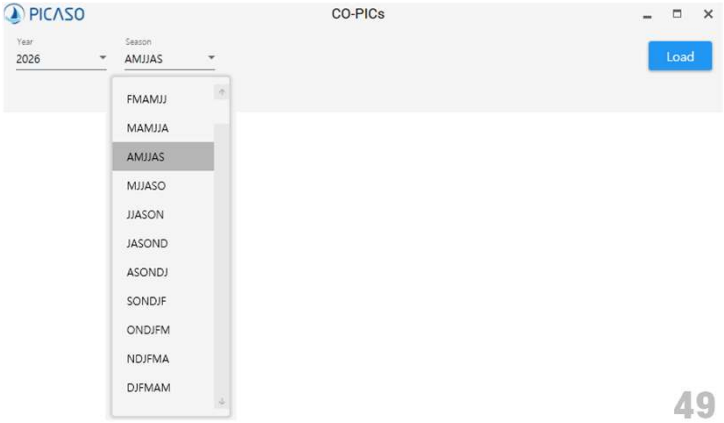
II-IV. CO-PICs

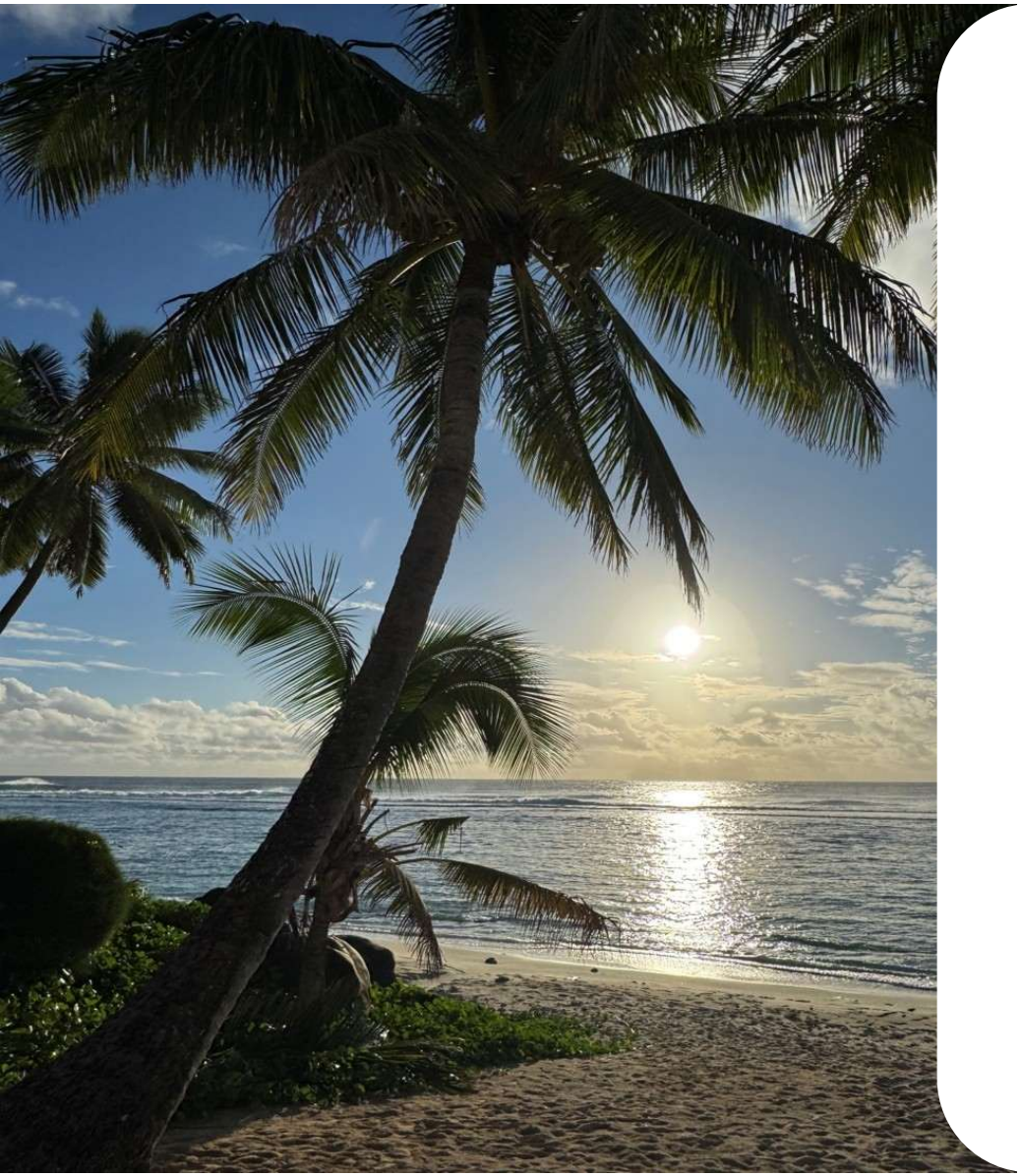


Click the “+” sign

Search Online

Search Local





PICASO

II-V. Function of PICASO

Guide

- Detailed Application Guide
- Climate Summary & Resources

II-V. Guide

Niuafoou (91772) during AMJ

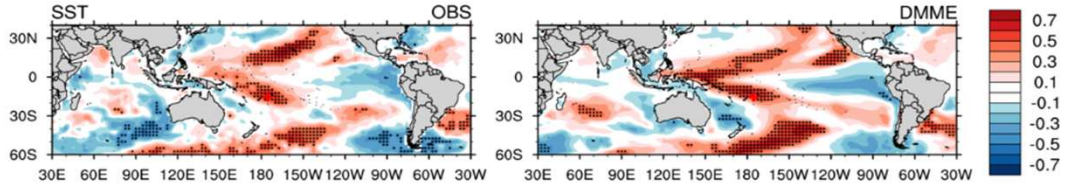


Figure 1. Temporal correlation coefficients (TCCs) between local precipitation of **Niuafoou** (**91772**) and sea surface temperature (SST) at each grid during the **AMJ**/**April**-**May**-**June** season for observation (left) and DMME (right). The black dots indicate grid points for which TCC is significant at the 95% confidence level.

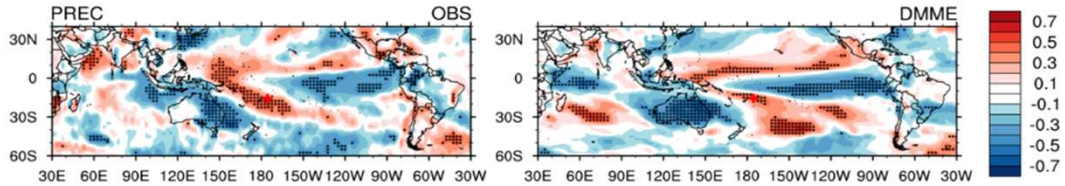


Figure 2. Temporal correlation coefficients (TCCs) between local precipitation of **Niuafoou** (**91772**) and **precipitation** at each grid during the **AMJ**/**April**-**May**-**June** season for observation (left) and DMME (right). The black dots indicate grid points for which TCC is significant at the 95% confidence level.

The large-scale oceanic and atmospheric signals associated with the local precipitation at **Niuafoou** (**91772**) during the **AMJ**/**April**-**May**-**June** season are displayed in Figures 1 and 2. The dynamical seasonal prediction system (APCC-MME) shows that the **AMJ**/**April**-**May**-**June** precipitation at **Niuafoou** (**91772**) is **well related to SPCZ (South Pacific Convergence Zone) activity**, and can be best recognized by the predicted (APCC-MME) **precipitation over the tropical Pacific**. Therefore, the **precipitation over the tropical Pacific** is selected to be the internal predictor in PICASO.

Targeted season

Targeted station

Major climatic factors

Hands-on : Exercise

1. Fill in the table below for 2026AMJ

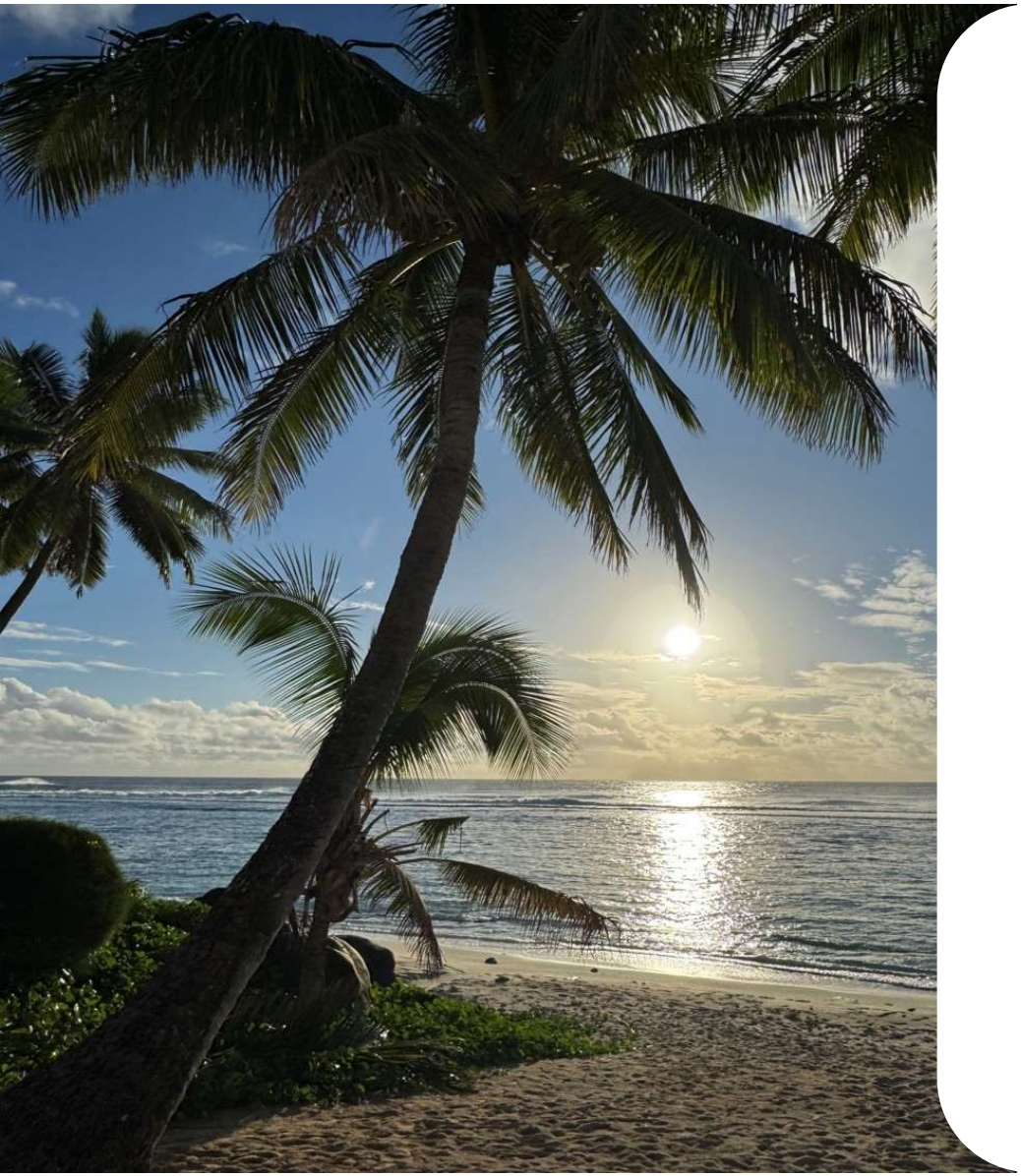
Country name / Station name / Season (Your Country/ Your Station / 2026 AMJ)							
Forecast	**AN(%)**	**NN(%)**	**BN(%)**	**Skill Degree**	**Upper % value 200mm**	**Lower % value 200mm**	
Skill Score	**(Training History) HSS**	**(Training History) LEPS**	**(Validation History) HSS**	**(Validation History) LEPS**			

Hands-on : Exercise

2. Based on CO-PICs AMJ2026,

- According to the ENSO Alert System, what is the current alert status, and what is the specific probability of El Niño occurring during the June-August (JJA) 2026 period?

- Looking at the Niño3.4 index forecast, what is the predicted temperature anomaly for September 2026, and does this indicate a 'Strong' or 'Moderate' El Niño phase?



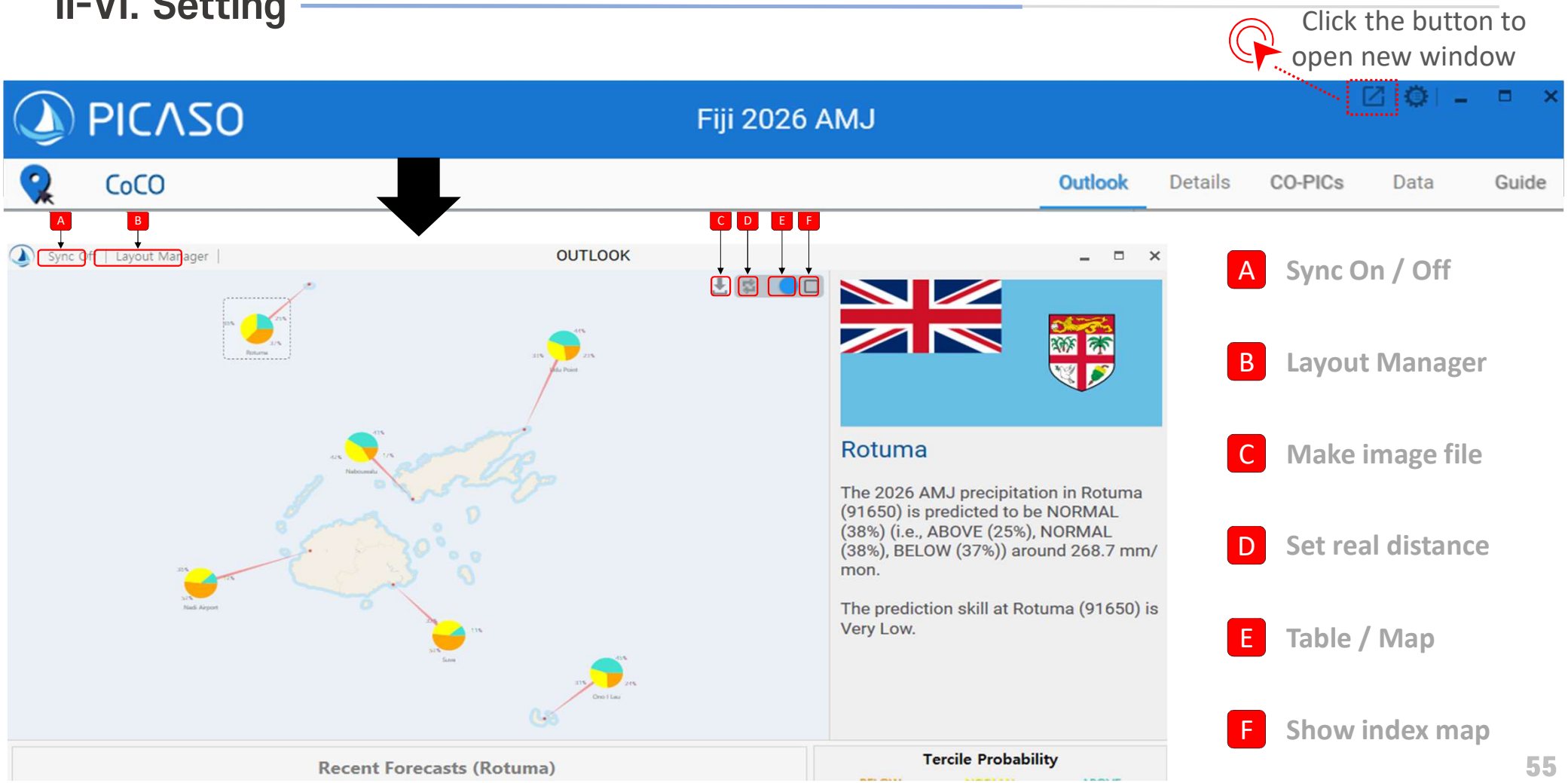
PICASO

II-VI. Function of PICASO

Setting

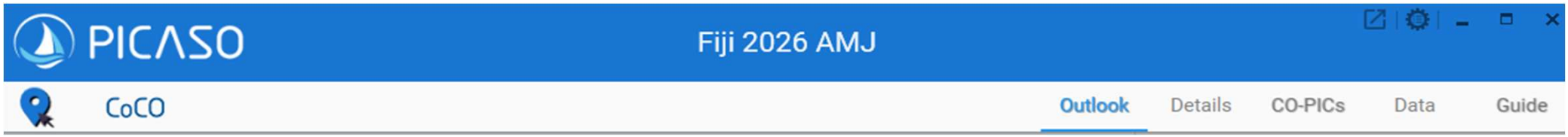
- Themes and Visual Styles
- Export as PDF/PNG Options

II-VI. Setting

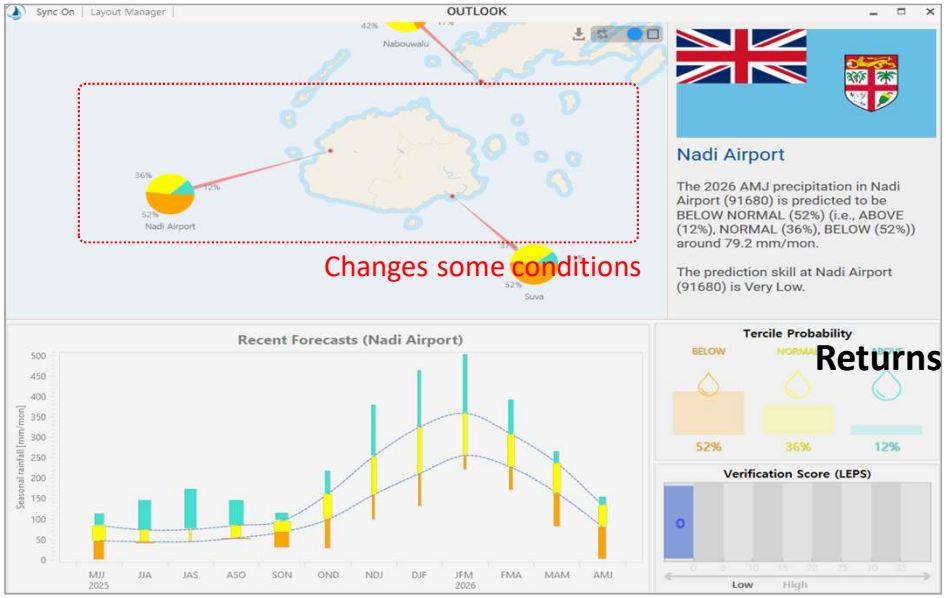


- A Sync On / Off
- B Layout Manager
- C Make image file
- D Set real distance
- E Table / Map
- F Show index map

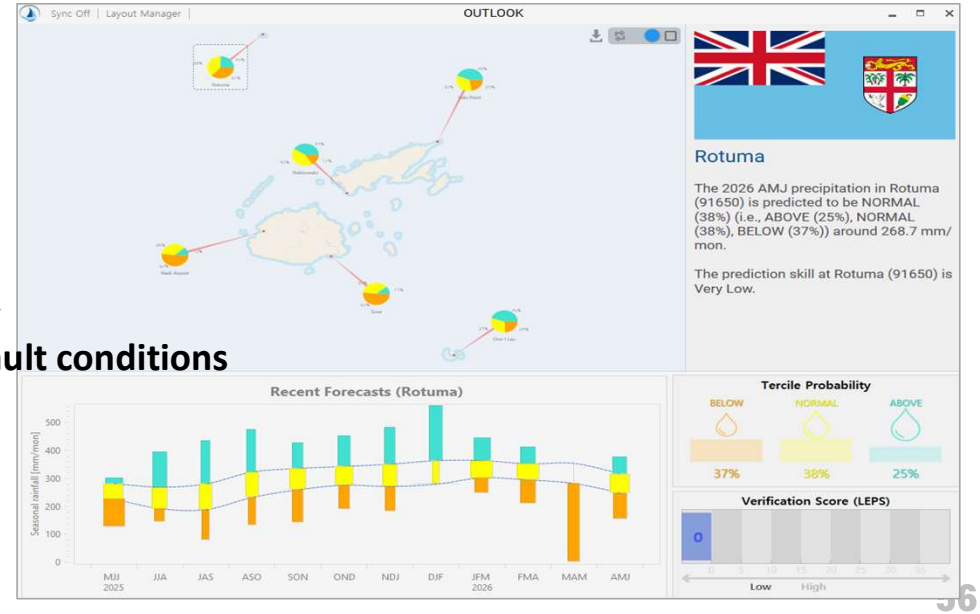
II-VI. Setting



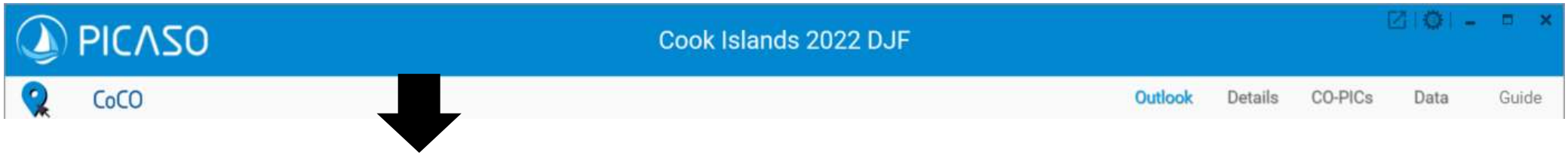
A Sync On / Off



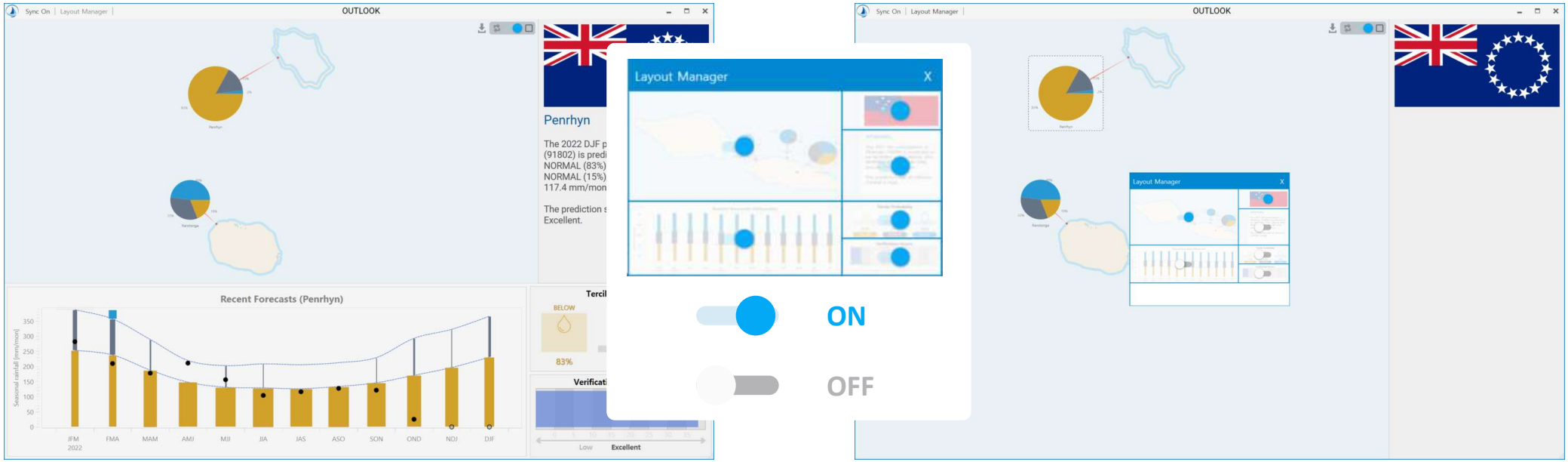
Returns to default conditions



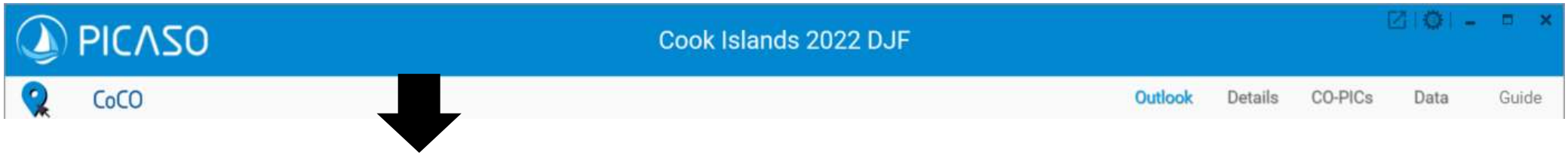
II-VI. Setting



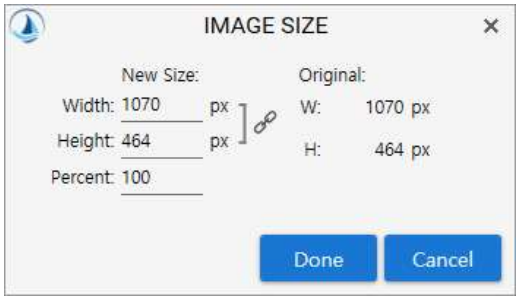
B **Layout Manager**

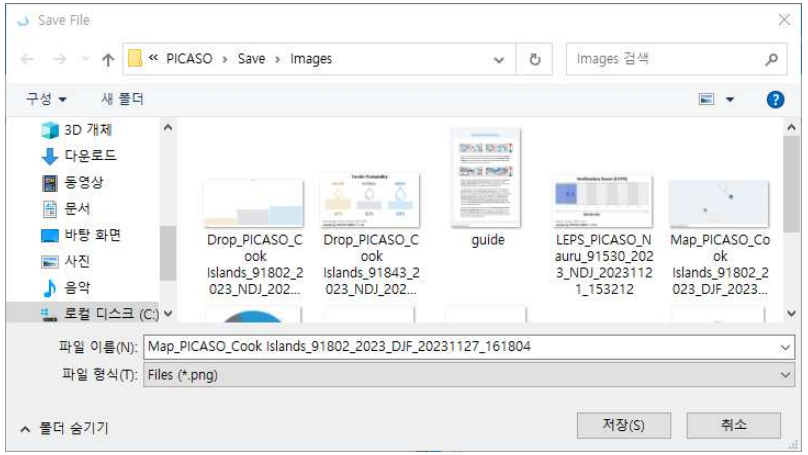


II-VI. Setting

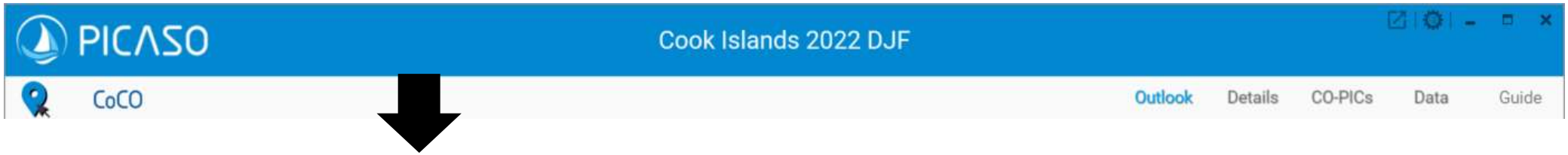


C **Make image file**

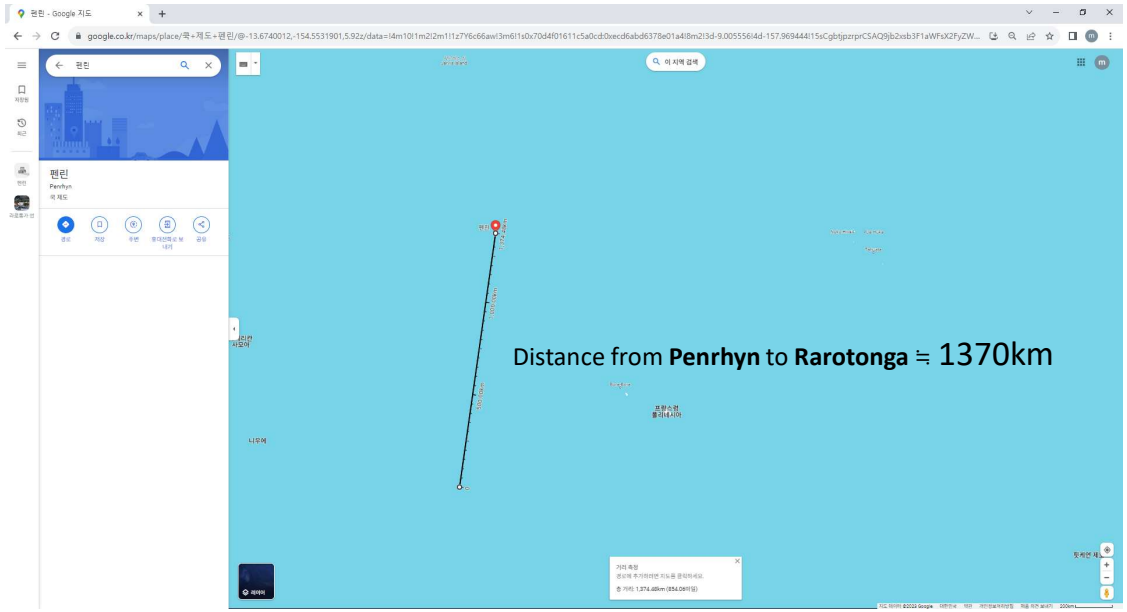




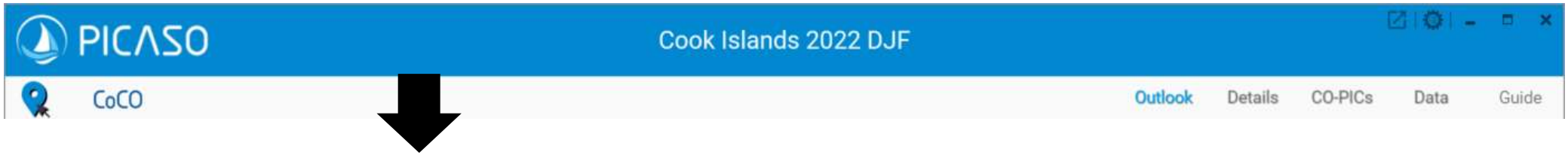
II-VI. Setting



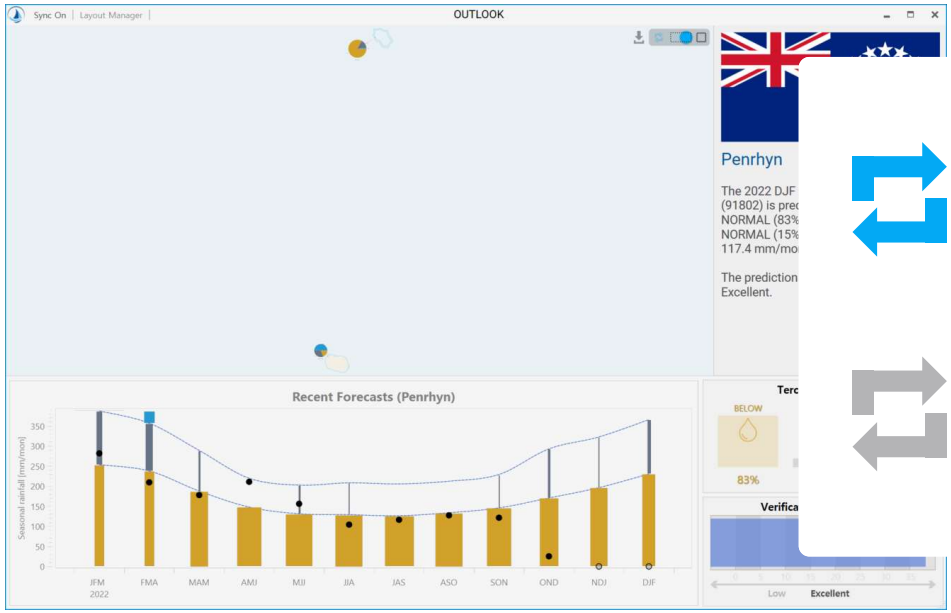
D Set real distance



II-VI. Setting

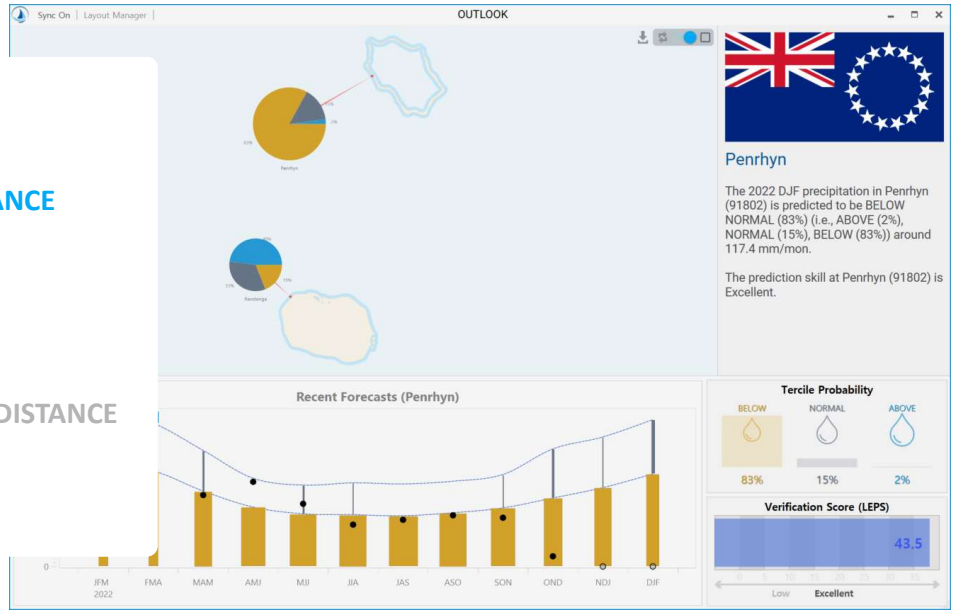


D Set real distance

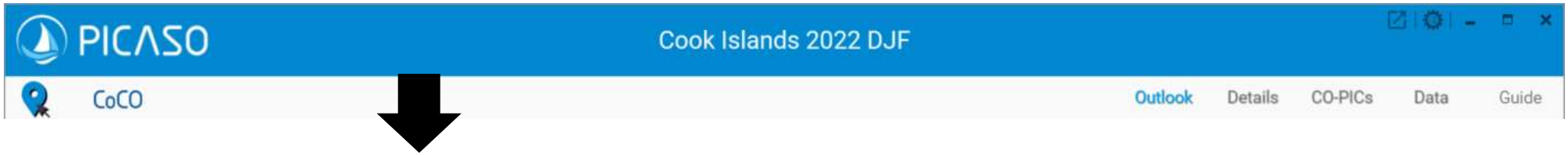


REAL DISTANCE

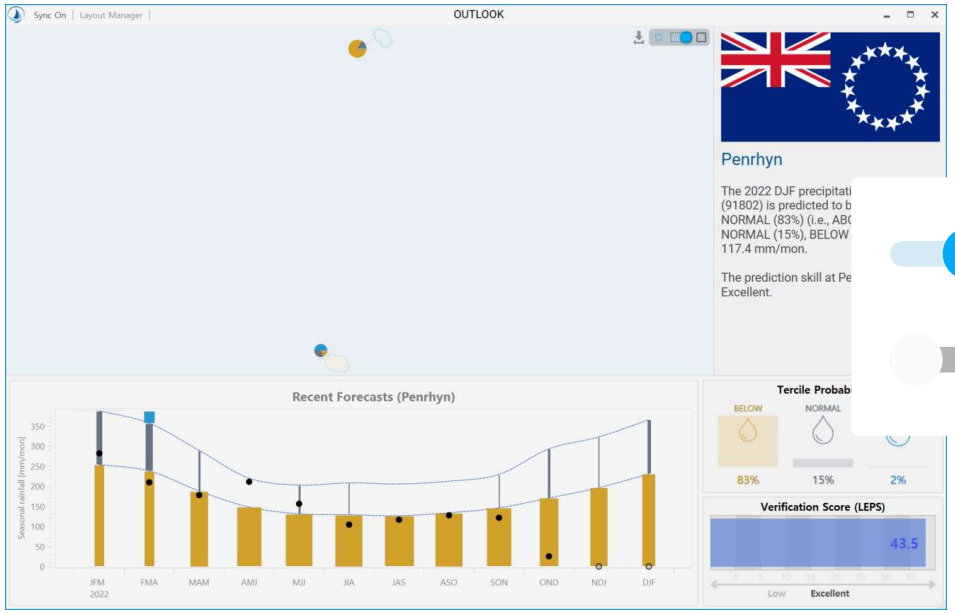
NOT REAL DISTANCE



II-VI. Setting

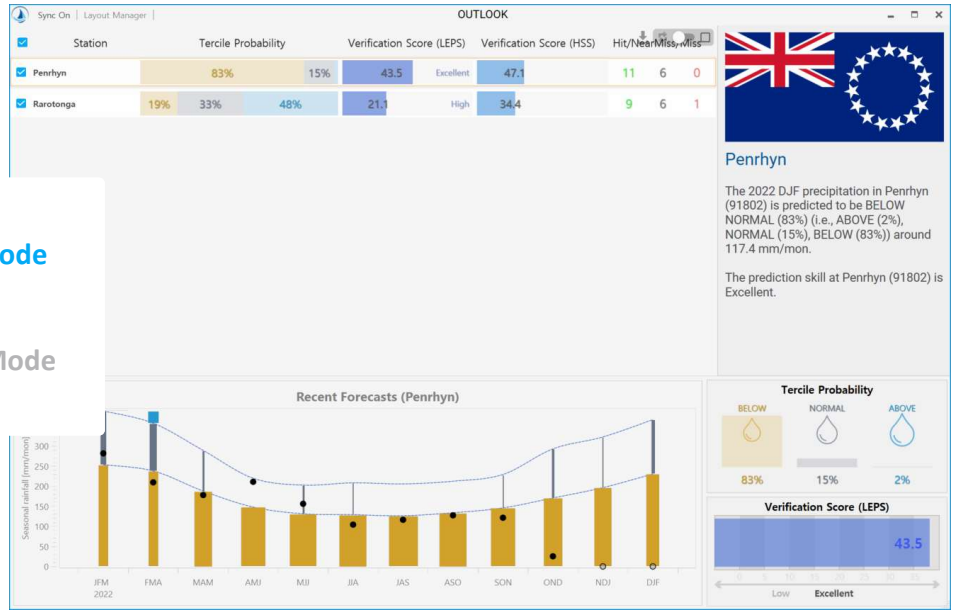


E Table / Map

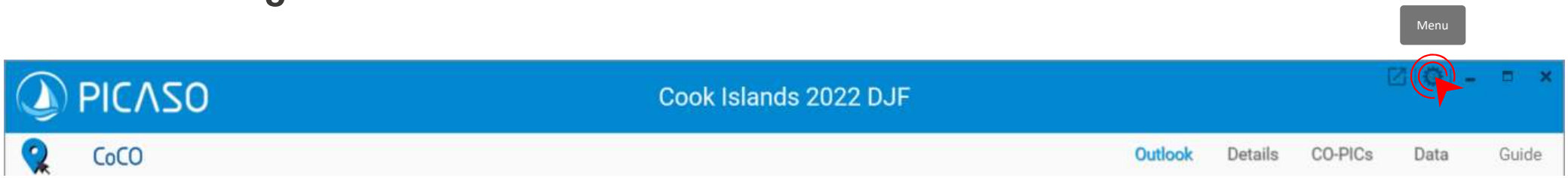


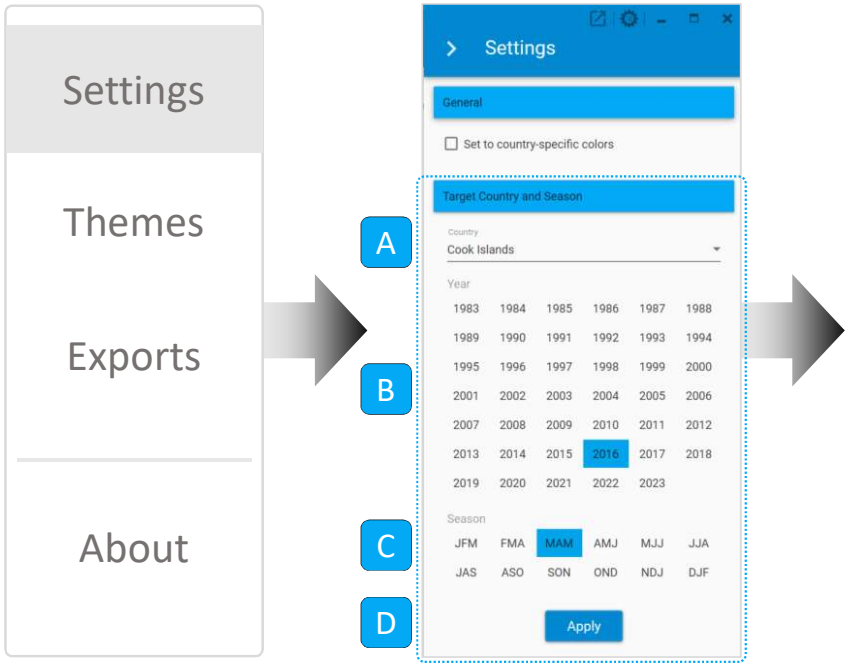
Map Mode

Table Mode



II-VI. Setting





A **Country** settings

Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, the Pacific

B **Year** settings

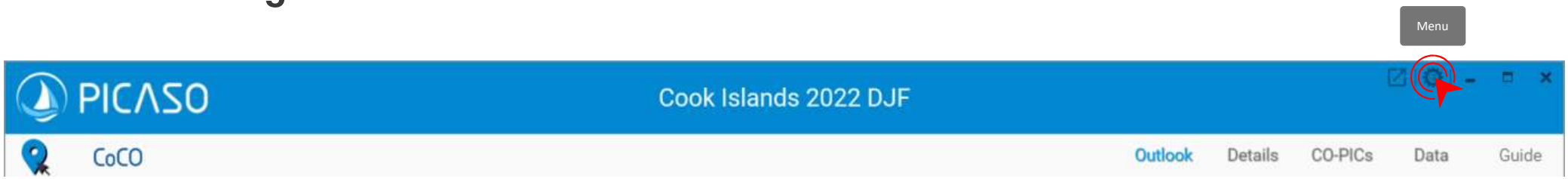
1983 to Present Year (Now 2023)

C **Season** settings

JFM, FMA, MAM, AMJ, MJJ, JJA, JAS, ASO, SON, OND, NDJ, DJF

D Press **Apply**

II-VI. Setting



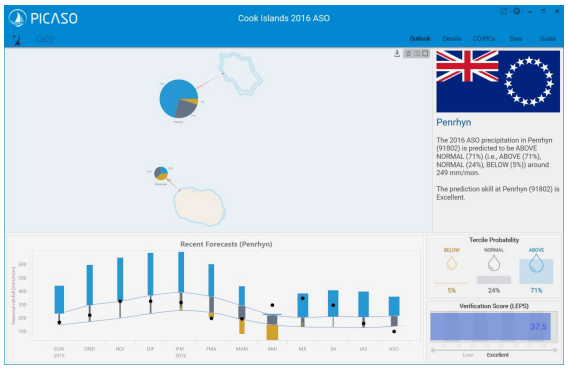
Settings

Themes

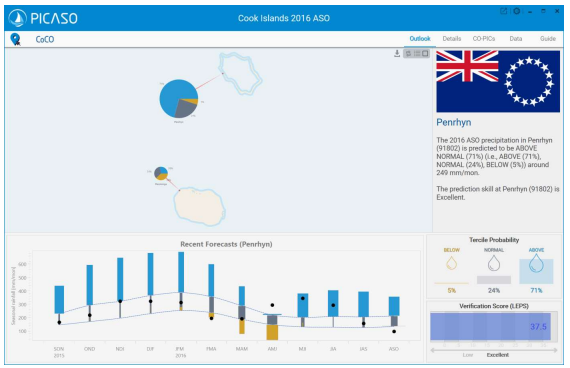
Exports

About

Standard style

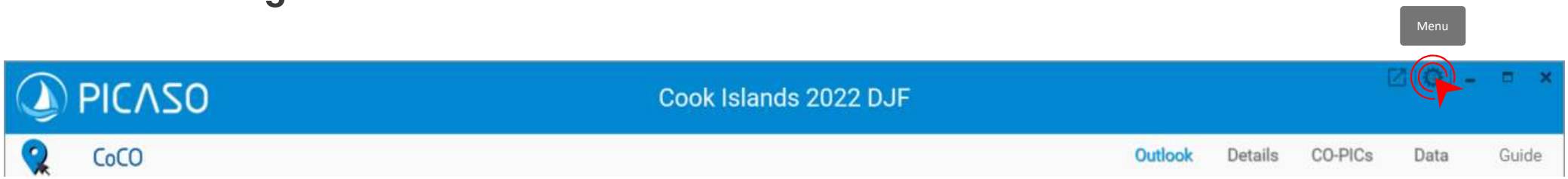


Alternate Style



Changes the title bar style at the top of the screen

II-VI. Setting



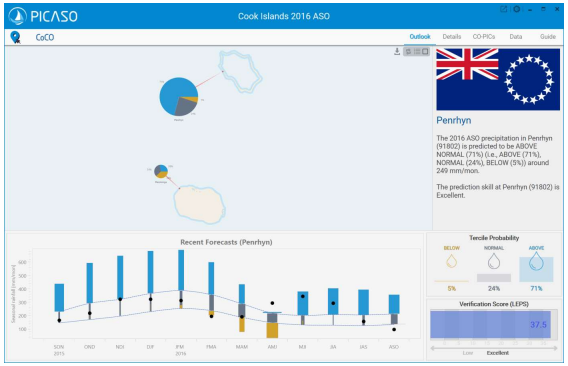
Settings

Themes

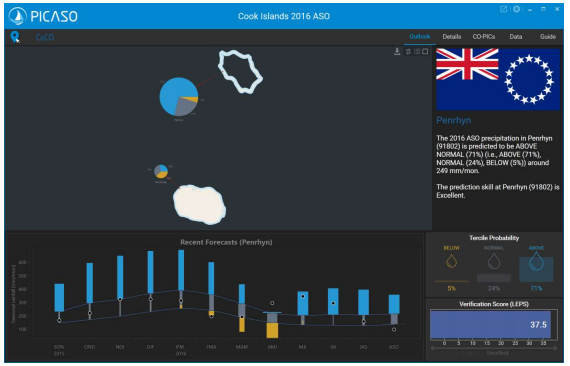
Exports

About

Light Style

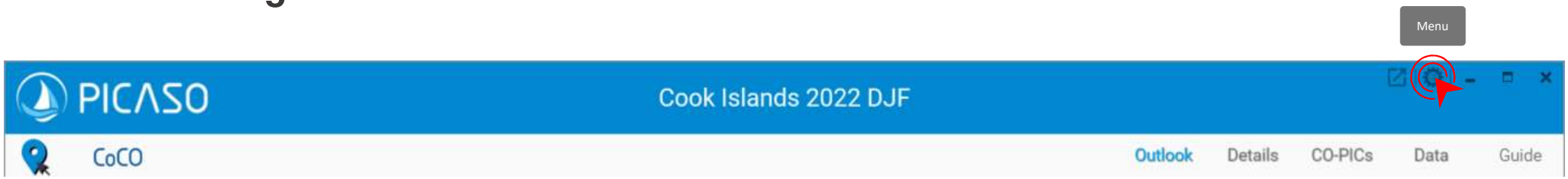


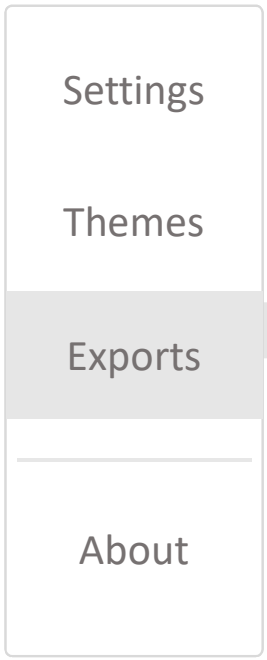
Dark Style

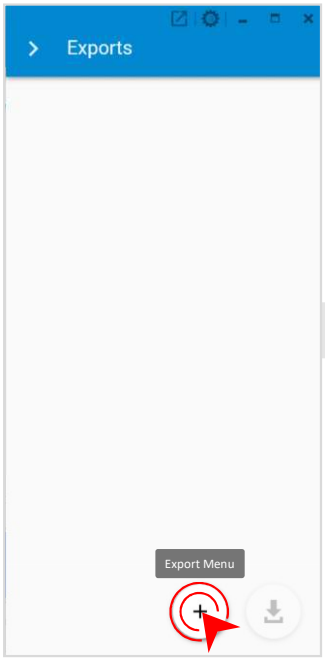


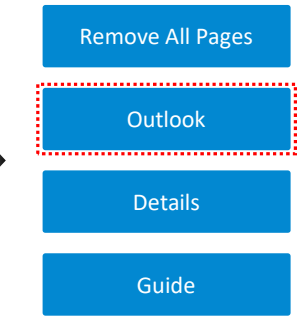
Changes the background style of PICASO screen

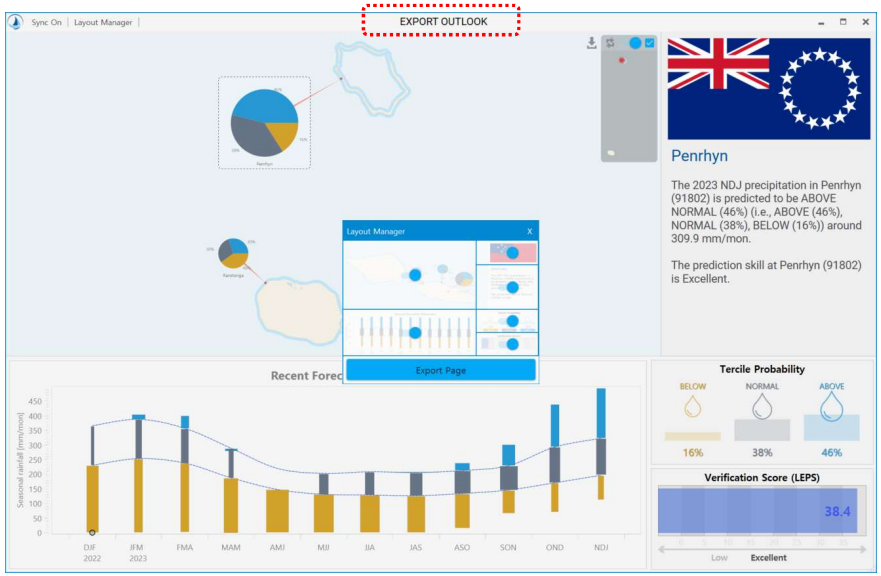
II-VI. Setting

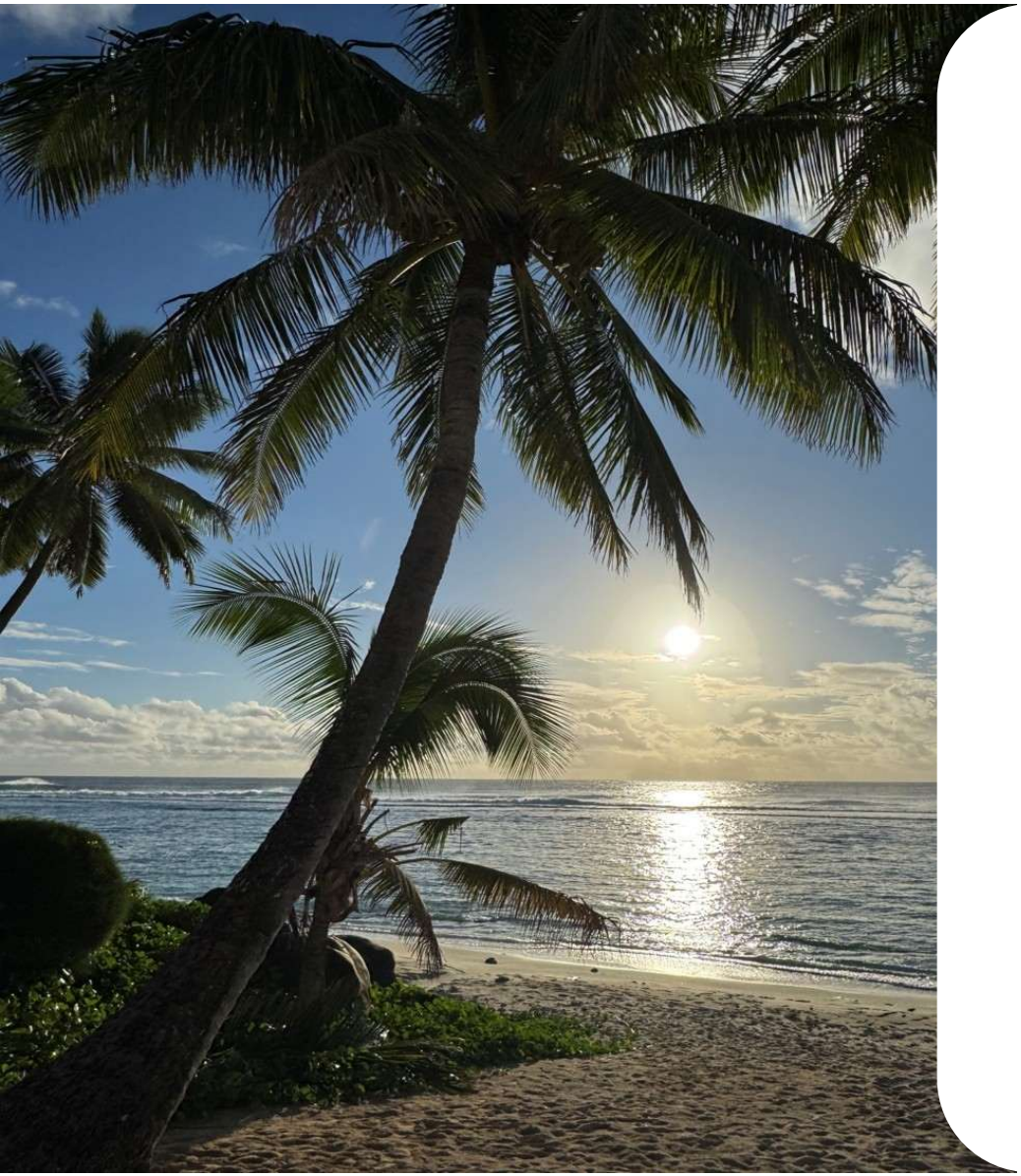










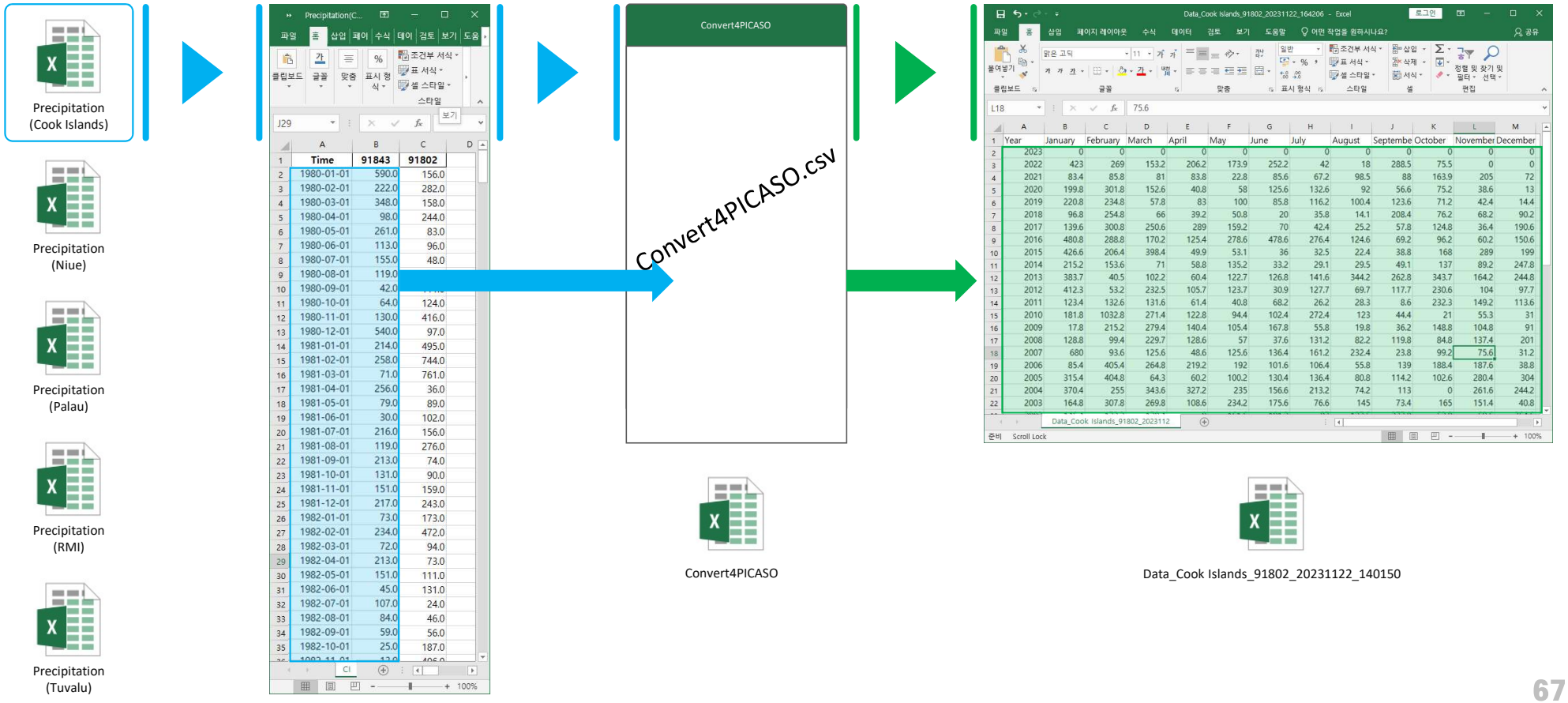


PICASO

III. Supplementary

- Converting observation data formats

Data

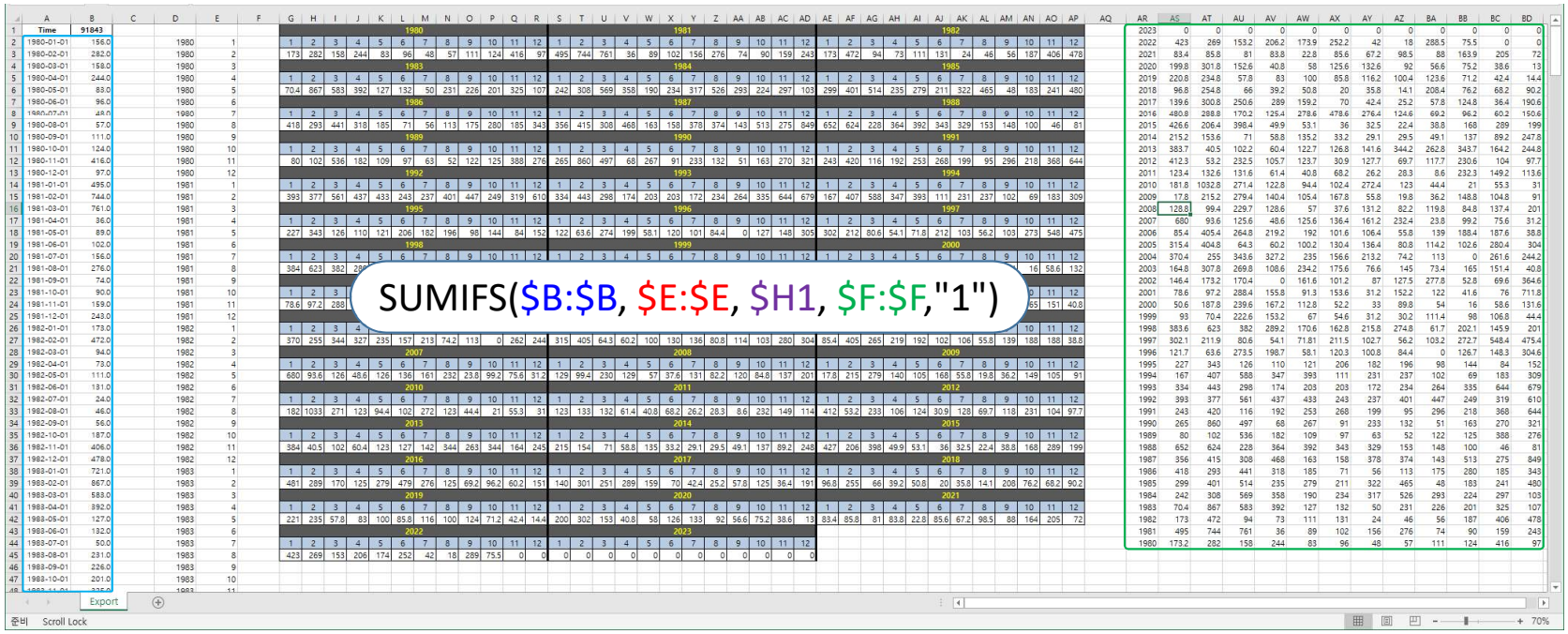

Precipitation (Cook Islands)
Precipitation (Niue)
Precipitation (Palau)
Precipitation (RMI)
Precipitation (Tuvalu)
Convert4PICASO
Convert4PICASO.csv
Convert4PICASO
Data_Cook Islands_91802_20231122_140150

Data

Structure description of the Convert4PICASO.csv

Copy the observed values from the observation file and paste them into columns A and B.

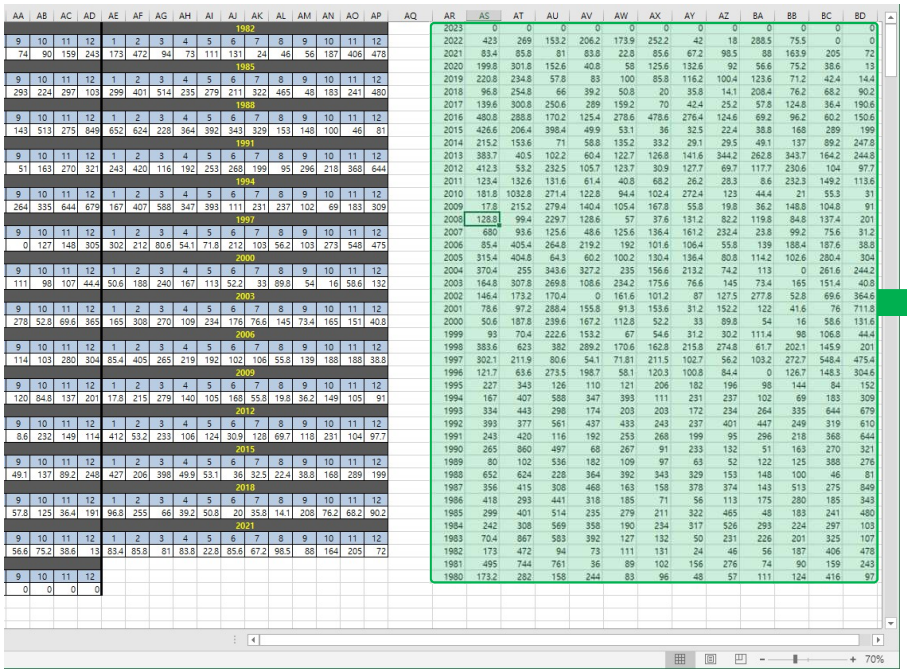
Copy and paste the converted values into the PICASO input file.

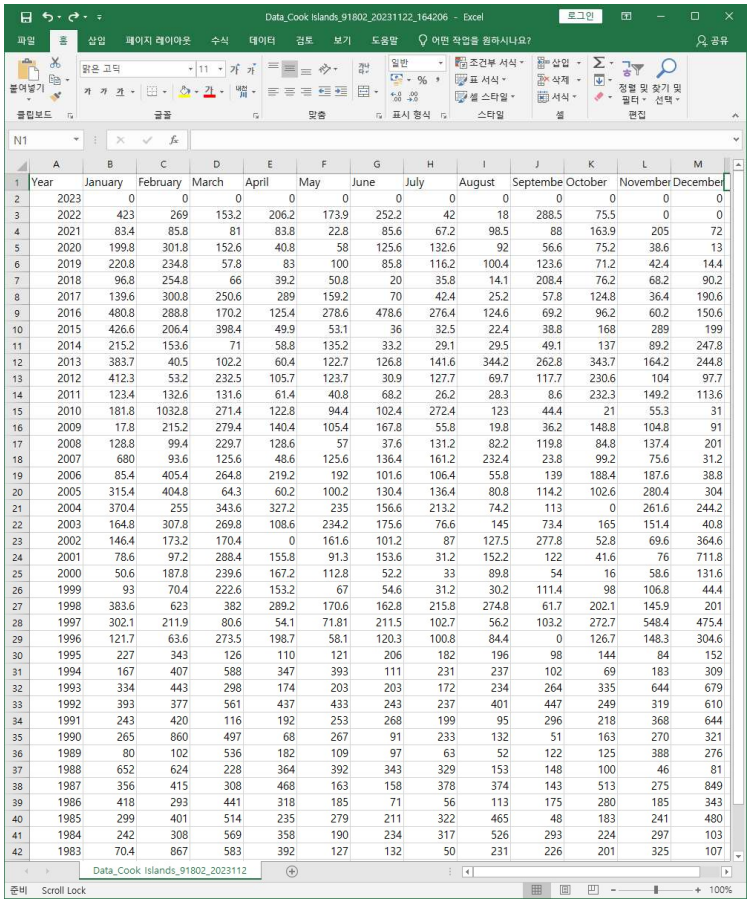


Data

Structure description of the Convert4PICASO.csv

Copy and paste the converted values into the PICASO input file.





Year	January	February	March	April	May	June	July	August	Septembe	October	Novembe	December
2023	0	0	0	0	0	0	0	0	0	0	0	0
2022	423	269	153.2	206.2	173.9	252.2	42	18	288.5	75.5	0	0
2021	83.4	85.8	81	83.8	22.8	85.6	67.2	98.5	88	163.9	205	72
2020	199.8	301.8	152.6	40.8	58	125.6	132.6	92	56.6	75.2	38.6	13
2019	220.8	234.8	57.8	83	100	85.8	116.2	100.4	123.6	71.2	42.4	14.4
2018	96.8	254.8	66	39.2	50.8	20	35.8	14.1	208.4	76.2	68.2	90.2
2017	139.6	300.8	250.6	289	159.2	70	42.4	25.2	57.8	124.8	36.4	190.6
2016	480.8	288.8	170.2	125.4	278.6	478.6	276.4	124.6	69.2	96.2	60.2	150.6
2015	426.6	206.4	398.4	49.9	53.1	36	32.5	22.4	38.8	168	289	199
2014	215.2	153.6	71	58.8	135.2	33.2	29.1	29.5	49.1	137	89.2	247.8
2013	383.7	40.5	102.2	60.4	122.7	126.8	141.6	344.2	262.8	343.7	164.2	244.8
2012	412.3	53.2	232.5	105.7	123.7	30.9	127.7	69.7	117.7	230.6	104	97.7
2011	123.4	132.6	131.6	61.4	40.8	68.2	26.2	28.3	8.6	232.3	149.2	113.6
2010	181.8	1032.8	271.4	122.8	94.4	102.4	272.4	123	44.4	21	55.3	31
2009	17.8	215.2	279.4	140.4	105.4	167.8	55.8	19.8	36.2	148.8	104.8	91
2008	128.8	99.4	229.7	128.6	57	37.6	131.2	82.2	119.8	84.8	137.4	201
2007	680	93.6	125.6	48.6	125.6	136.4	161.2	232.4	23.8	99.2	75.6	31.2
2006	85.4	405.4	264.8	219.2	192	101.6	106.4	55.8	139	188.4	187.6	38.8
2005	315.4	404.8	64.3	60.2	100.2	130.4	136.4	80.8	114.2	102.6	280.4	304
2004	370.4	255	343.6	327.2	235	156.6	213.2	74.2	113	0	261.6	244.2
2003	164.8	307.8	269.8	108.6	234.2	175.6	76.6	145	73.4	165	151.4	40.8
2002	146.4	173.2	170.4	0	161.6	101.2	87	127.5	277.8	52.8	69.6	364.6
2001	78.6	97.2	288.4	155.8	91.3	153.6	31.2	152.2	122	41.6	76	711.8
2000	50.6	187.8	239.6	167.2	112.8	52.2	33	89.8	54	16	58.6	131.6
1999	93	70.4	222.6	153.2	67	54.6	31.2	30.2	111.4	98	106.8	44.4
1998	383.6	623	382	289.2	170.6	162.8	215.8	274.8	61.7	202.1	145.9	201
1997	302.1	211.9	80.6	54.1	71.81	211.5	102.7	56.2	103.2	272.7	548.4	475.4
1996	121.7	63.6	273.5	198.7	58.1	120.3	100.8	84.4	0	126.7	148.3	304.6
1995	227	343	126	110	121	206	182	196	98	144	84	152
1994	167	407	588	347	393	111	231	237	102	69	183	309
1993	334	443	298	174	203	203	172	234	264	335	644	679
1992	393	377	561	437	433	243	237	401	447	249	319	610
1991	243	420	116	192	253	268	199	95	296	218	368	644
1990	265	860	497	68	267	91	233	132	51	163	270	321
1989	80	102	536	182	109	97	63	52	122	125	388	276
1988	652	624	228	364	392	343	329	153	148	100	46	81
1987	356	415	308	468	163	158	378	374	143	513	275	849
1986	418	293	441	318	185	71	56	113	175	280	185	343
1985	299	401	514	235	279	211	322	465	48	183	241	480
1984	242	308	569	358	190	234	317	526	293	224	297	103
1983	70.4	867	583	392	127	132	50	231	226	201	325	107
1982	173	472	94	73	111	131	24	46	56	187	406	478
1981	495	744	761	36	89	102	156	276	74	90	159	243
1980	173.2	282	158	244	83	96	48	57	111	124	416	97